TECHNOLOGY DEPT.

First Copy

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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PUBLIC LIBRARY DETROIT

RETAIL SALES IN SEPTEMBER STEADY

August New Truck Sales Placed at 34,500, Off 13%; 8 Months Total Down 19%

With Registration Returns In from 41 States and D. C., Total Reaches 28,850; Month Off 34% From Year Ago

NEW YORK, Oct. 2.—Registrations of new commercial cars in the United States in August approximated 34,500, according to estimates based on the returns from forty-one states and the District of Columbia, which have reported for that month. This would be a decline of 13 per cent. from July and 34 per cent. from the corresponding month of last year.

The states that have reported show a total of 28,850 new truck sales for August as against 33,097 for the same states in the preceding month and 44,118 in the corresponding month of last year. This was a decline of 12.8 per cent. from July and 34.5 per cent. from a year ago.

Among the larger states that have reported August truck sales are California, Illinois, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio and Pennsylvania.

Following are the month by month new commercial car registrations for this year, as compared with last, with August, 1930, estimated:

	1930	1929
January	30,274	29,857
February	31,846	32,561
March	42,183	46,349
April	46,997	56,265
May	43,204	52,851
June	33,515	45,061
July	39,877	57,945
August	*34,500	52,523
Totals	302,401	373,412

*Estimated.

Registrations of 34,500 new trucks in August would have brought the total for the first eight months to 302,401, as compared with 373,412 in the corresponding period of last year, a decline of 19 per cent.

CHRYSLER SHIPS 15,736 VEHICLES IN SEPTEMBER

Detroit, Oct. 2.—Total shipments of Chrysler built passenger cars, trucks, buses, motor coaches and taxicabs in September amounted to 15,736, as compared with 18,148 in August. Estimated total number of Chrysler motor cars in field stocks on September 20 was considerably lower than on the same date in any of the preceding four years.

Retail deliveriers of Plymouth are running 95 per cent. of last year's record, and well above the 1928 figures for September.

SHIPMENTS BY BUICK 13,303 IN SEPTEMBER

Detroit, Oct. 2.—The Buick Motor Company, a division of General Motors Corporation, produced and shipped 13,303 cars in September, compared with 20,004 in August and 26,500 in September, 1929. October schedule calls for an output of 10,995 cars.

R. W. JUDSON RESIGNS CONTINENTAL BOARD

Detroit, Oct. 2.—R. W. Judson has resigned as chairman of the board of the Continental Motors Corporation. Mr. Judson is reported to have disposed of his holdings in the company. His successor has not been announced.

Announcement was made by officials of the company that production schedules were increased in September and that several new customers have been added in the industrial field.

Mr. Judson was one of the organizers of Continental Motors in 1903, but had been inactive as far as the company is concerned for some months.

FORD CLAIM OVERRULED BY U. S. CUSTOMS COURT

Washington, Oct. 2.—Overruling a claim of the Ford Motor Company, Detroit, the United States Customs Court finds that American-made aluminum castings, imported from Canada, where they were subjected to the "profiling" process, which improved their condition and value, were properly assessed with duty at the rate of 40 per cent. ad valorem, under Paragraph 399, Tariff Act of 1922, as manufactures of aluminum not specially provided for. Claims for free entry, under Paragraph 1514, as American goods returned, is set aside by the court as without merit. Chief Justice Fischer writes the opinion. Alternative claims for a lower duty than that imposed by the customs authorities are also dismissed by the court.

WAYNE COUNTY CAR SALES SHOW GAIN IN SEPTEMBER

Detroit, Oct. 2.—Registrations of new passenger cars in September in Wayne county amounted to 3,281, as compared with 3,209 in August, a slight gain, and comparing with 7,075 in the corresponding period of last year, according to announcement here today. The decline in sales from September, 1929, was 53 per cent.

Ford accounted for 50 per cent. of the total sales in September, its share being less than in August.

U. S. TOOL & MFG. CO. AWARDS PLANT CONTRACTS

Detroit, Oct. 2.—The U. S. Tool and Manufacturing Company of Detroit has awarded a contract to the Austin Company, engineers and builders, for the design and construction of a new plant on Kingsley Street in Dearborn.

TODAY

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FALL OUTLOOK IN SOUTH AND SOUTHWEST OPTIMISTIC

Dealer Stocks of Both New and Used Cars at Lower Levels; General Trade Conditions Better

NEW YORK, Oct. 2.—Retail sales of both new and used cars during September showed little fluctuation, according to a survey of five leading cities throughout the South, Southwest and Pacific regions. While there has been no sharp upturn in any section, there has been no marked slump.

Dealer stocks of both new and used cars are universally reported at lower levels than last year, and this, coupled with the stricter trade-in policies adopted, has greatly strengthened the dealers' position.

Most sections report an improvement in general business conditions, and with fair crop outlook in the agricultural regions there is a general feeling that fall sales will continue at levels on a par with last year.

Denver is the only city to report a recession of trade in September that may be considered in the nature of a slump. Atlanta dealers see no great change from the level that was attained during the summer months. Oklahoma City dealers feel that the worst period of the year came in August, and while there has been no marked improvement, the attitude of dealers in that section is generally more optimistic.

An improvement in sales of both new and used cars is reported from Lincoln, Neb., during September, and in San Francisco sales are said to be proceeding on an even keel.

All sections look for improvement during October and November, with dealers in good shape to take advantage of any real upturn in demand.

Lincoln, Neb., Oct. 2.—An upward trend in new car sales is noticeable here, with practically all dealers reporting a pick-up in business during the first part of September.

(Continued on Page 2)

DIAMOND T EXPORTS SHOW 400% INCREASE

Chicago, Oct. 2.—Thus far this year export sales of motor trucks by the Diamond T Motor Car Company have been four times as great as in 1929, which was the largest year for foreign business experienced by the company. In announcing the large gain, President C. A. Tilt today gave some interesting sidelights on the record made.

Touching upon the new tariff phase of the situation, Mr. Tilt declared that the foreign distributors of the company ordered considerably more trucks than they required for immediate use so as to have them on hand in the event of tariff rate increases being applied to imported commercial vehicles.

Other factors in the sales increase include the acquisition of important new distributors, according to Mr. Tilt. One of the principal tie-ups has been in Spain with Autolocomocion Casanova of Valencia. This concern placed an initial order for twenty Diamond T trucks of various models. Orders during July and August were also received from old established distributors at Madrid and Corunna, Spain. Forty-five trucks alone were shipped to Spanish distributors during August.

South Africa has contributed in large measure to export sales, with more than fifty trucks going to that section within recent months. South

(Continued on Page 2)

Ayres and Klein Find Signs of Trade Upturn

NEW YORK, Oct. 2.—Definite signs that the upward climb in business is near continue to make their appearance and Dr. Julius Klein, assistant secretary of commerce, and Leonard P. Ayres, nationally prominent business forecaster, hailed these tendencies in statements made today.

Mr. Ayres told the American Bankers' Association at Cleveland that there would be a recovery in building and automobile manufacture at the first of next year and that those two things would undoubtedly mark a real upturn in business conditions.

Dr. Klein in an address before a meeting of Cities Service executives and salesmen of Henry L. Doherty & Co., predicted that by the end of October general business conditions would be greatly improved, and by the end of the year they shold reach privce levels of 1928.

In elaborating this statement, Dr. Klein said: "We have experienced fifteen crises in the past fifty years which have lasted an average of thirteen months. During these depressions the average drop in price has been 15 per cent. During our recent depression the price drop averaged only 11 per cent.. In 1921 the average price drop reached 25 per cent.

"We have come out of other depressions and we will come out of this one. Other depressions have been decidedly greater than our most recent experience. We need only remember 1921. One big mistake business men are making is when they compare present price levels with 1929, which was not a normal year.

"There has been to much prophecy, too much lamentation and too much near-sightedness. To quote my good friend Col. Leonard Ayres of Cleveland, 'When interest on 90-day paper drops below 3 per cent, the upward trend is not far away.' I see every indication of an immediate upward trend in business.

"In estimating business trends our search for facts must be world-wide, since America has tremendous

(Continued on Page 4)

Detroit Car Dealers Hear Banker at 'Pep' Meeting

"WE can have prosperity the moment we make up our minds to have it," declared John N. Stalker, president of the Union Guardian Trust Company, at a special meeting of the Detroit Automobile Dealers' Association, held last night at the Book Cadillac, and attended by 459 dealers and their salesmen.

The meeting was held for the purpose of putting "pep" into the dealers, and as such was a success. Mr. Stalker told them that the recovery from the depression was at hand, that all that is needed is for the people to begin spending money.

He pointed out what he considered favorable conditions, with no overproduction, savings deposits on the increase and banks loaded with money available at low rates. Fear of the future is now delaying the return to normal. That such fear is groundless is evidenced in the soundness of fundamental business conditions, he said.

Other speakers along confidence producing lines were James Dickson, Jr., former president of the association, Buick representative; James M. O'Dea of Graham-Paige and Bruce R. Dodds, president of the association.

Frank Murphy, Detroit's new mayor, also talked, telling what the city hopes to do for the unemployed, and praising the way the leaders of the automobile industry are cooperating. He said that at the meeting held Tuesday, every automobile manufacturer invited attended, and promised to back him to the limit in getting work for the unemployed.

Car Sales in Lincoln, Neb., Show Slight Improvement

(Continued from Page 1)

While new cars are moving better than at any time since last spring, used car sales are holding about on a par with the summer months. Most of the money seems to be going for new cars, indicating that people in this sectoin of the country are becoming convinced that the business depression is ending.

With increasing sales of Plymouth and Dodge automobiles, Johnson & Strom, 12th and Que Streets, have added to their sales and service personnel. With Plymouth in third place and Dodge in fifth place in Nebraska sales, and new low prices on Dodge Brothers trucks, N. S. Strom, manager, is enthused over the immediate business outlook.

"It looks like a fair fall for Buicks," Fred Sidles, president of the Lincoln Buick Company, stated. "Money is getting less tight. Our used cars have been moving pretty well, but the percentage of increase in used car sales was not as great in September as for new cars. Our used car stock is unusually low, but this is due largely to the fact that this company started out with a clean slate late last spring, having previously been a part of the Nebraska Buick Company, which sold out to the Buick Motor Company."

Al DuTeau, proprietor of the DuTeau Chevrolet Company, and one of the most active members of the Lincoln Automobile Dealers' Association, states that his used car stock is higher than any other company in the city, but he attributes this to the fact that the company has been selling more new cars than any other dealer in Lincoln this year.

"While our used car stock is big," he says, "it is no larger, if as large, than the stock we had on hand last year at this time. We have been holding down the prices on trade-in cars very effectively this year and expect to continue the practice. New cars are starting to pick up."

Practically all Lincoln dealers have held down the prices allowed on trade-in cars during 1930. The automobile dealers' association was responsible for much of the spirit of co-operation which has existed among local dealers this year, and Mr. DuTeau expresses the opinion that there has been very little underbidding on the part of competing dealers and salesmen."

San Francisco September Sales Normal for Year; Outlook Better

SAN FRANCISCO, Cal., Oct. 2 (UTPS).—A. R. Dennis, vice-president of the Chester N. Weaver Company, Studebaker distributor, reports an even keel of sales during September, without any marked quickening in volume.

"We do not expect the general improvement in the automotive field until the spring of 1931," says Mr. Dennis. "In our experience the Pierce-Arrow sales for the forty-seven northern California counties have shown the remarkable increase of 51 per cent. in 1930, as compared with 1929, comparing the year so far with the corresponding period of last year."

The H. O. Harrison Company, Chrysler dealer, reports a marked increase in new car sales during September over the preceding month, and this despite the fact that the firm introduced its new models in July, and normally would expect July and August to exceed September in sales volume. The firm expects its sales to continue at about the same level as September during the remainder of the fall season.

W. P. Mollison, sales manager of the Day-Morrill Company, Oldsmobile and Viking dealers, expects that this month and November will see a pick-up in sales, while September has continued at the rate of about three-quarters of the sales volume peak set in 1929, this rate being true for the most of the year so far.

A. J. Gloistein, sales manager of Robert A. Smith, Inc., Chevrolet dealers for San Francisco, says that business continues as usual during September, with no marked pick-up, sales being good, but certainly not so markedly better as to call it a quickening of the general selling field.

Oklahoma City Enjoys Minor Trade Pick-Up; Car Stocks Low

Oklahoma City, Okla., Oct. 2 (UTPS).—A tinge of confidence and hope based on a recent minor business pick-up is distinctly noticeable in talks with local used and new car dealers. August was a month that took the heart out of almost every one, and in most instances companies that paid expenses were doing well. The tone of the automobile business brightened in September.

Carrol Campbell of the Carrol Campbell Motor Company, dealers in used cars only, says that despite the current business depression he has been making a little money and that he can see no reason why the automobile business should not emerge in a much more stable condition because of the tendency toward conservatism recently displayed.

"The buyer who takes a used car from any dealer today stands an excellent chance of getting a bargain. The reason of it is that new car dealers are not taking trade-ins at an over-valuation, depending on selling enough volume to more than make up their losses. Used car stocks in the city, in my opinion, are lower, and of much better quality than they were at this time last year."

Campbell says that there is little real difference in the types of cars moving to the used car buyer. "Give him a buy, whether it's the small, middle, or large class, and he'll buy," he says.

The Norton-Johnson Buick Company seems to be leading practically all new car concerns in the city in sales this year. Edgar Johnson, sales manager, says that the reason is "bigger value by Buick than ever before, and at less money."

Johnson, too, is of the opinion that dealers are "tightening down" on trade-ins. "I know that we are harder to trade with than we were a year ago, but we are figuring on getting rid of our used cars at a price that the buyer can pay, and we must get them right to do that."

The Norton-Johnson sales are holding steady, although showing some decline in August along with the rest of motor companies. The model change coming just when it did helped local dealers to a great extent. Johnson reports that 1930 sales are now ahead of 1929.

Other comments are not so cheerful. Many dealers have been lucky to sell a dozen new cars in September, and among these are some in the lighter class. There is a distinct tendency to pass up a deal unless there is some profit in it.

Dealers notice that there are fewer deferred payment sales. Cash and trade-ins are taking the new car off the floor when it goes. At the same time dealers are not confronted with the task of removing part of the mortgage from the old car before being able to make a deal. More drivers are owning their automobile outright, which is also considered a healthful sign.

Because dealers are harder to trade with stocks of used cars are much cleaner. Perhaps there are slightly older models, however, because most people are driving each automobile longer.

The retail automobile trade has been coming in waves all summer. Just now, with cotton picking time near, the workmen wanting transportation "junkers" are selling at a premium, but that will not be for long. The fall market, usually good or better than the spring market in Oklahoma City, promises to be smaller, because of the smaller cotton crop and the poor prices for it, but with the pick-up even slight it causes considerable optimism.

No Marked Improvement in Sales in Atlanta; Inventories Low

Atlanta, Ga., Oct. 2 (UTPS).—No marked improvement is reported by Atlanta dealers in their September sales; if anything, business was a little off as compared with sales during August, and is decidedly off as compared with September figures last year.

"There was little change in the situation during September," says Frank North, manager of the Atlanta Reo Company. "We are continuing to keep used car stocks down to a minimum, and are trying to clear out all of our new cars in anticipation of the arrival of our new models."

"Although September business was well under that of September, 1929," says Mr. Vlig of the Olds Motor Company, "our showing for the year to date is much better than it was at this time last year, and we believe that business will begin to come in this month and November to keep sales well ahead of last year's figures.

"We are keeping our used car stocks to new low levels. Where at this time last year we had a large number of used cars on our floor, today we do not have more than twenty-five or thirty such cars to be disposed of. So our situation, I would say, has been quite definitely improved."

Fair conditions for September are reported by the Harry Semmers Company, dealing in Chryslers.

This firm reports that it could dispose of more new cars if it were not for the used car situation. It has adopted a policy of not selling new cars when used car stocks accumulate, and this disposal of used cars appears to be the controlling factor.

In other words, dealers are beginning to learn that it is not good business to sell the new cars and let the old ones accumulate.

Denver, Col., Oct. 2.—It is the opinion of a group of representative automobile dealers of Denver that in general sales of both new and used cars underwent something of a slump durng September.

This condition is considered temporary, however, and is consistent with the erratic tendency of the year so far. Many of the dealers believe that business as a whole is on the upgrade, with chances good

(Continued on Page 4)

HEXCEL RADIATORS
give that Plus-Performance so essential where a reputation is at stake!
HEXCEL RADIATOR CO.
Milwaukee Wisconsin
Detroit Office: 712 Stephenson Bldg.
HEX CEL

DIAMOND T EXPORTS SHOW 400% INCREASE

(Continued from Page 1)

American countries, including Argentina, Bolivia, Uruguay, Chile and Venezuela, have also proved an active market. An interesting new dealer connection reported is that of V. Cattoretti & Co. of LaPaz, Bolivia, one of the highest and most inaccessible capitals in the world. This concern placed an initial order for four trucks, specifying that they be built to operate at an altitude of 12,000 feet.

SPARKS from DETROIT

* * *

Words of Cheer

* * *

Three Flag Breakfast

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Chris Sinsabaugh—Detroit Editor

IF there is any truth in that old saying that you can't beat the law of averages, then we have something to look forward to, and we can afford to take the sock in the jaw which has temporarily slowed us up. Chrysler statisticians pass these words of cheer to the industry. They have the figures for the past fifteen years and they find that their calculations show that the production of pasenger cars for domestic consumption in the next five years should be about 20 per cent. greater in number of units than the production in the past five years.

Production of passenger cars this year to date has been 89 per cent. of the average for the past six years, and deliveries to the public 92 per cent., they say. Retail sales this year to date have been greater than in the corresponding period of 1927 and 1928, but have been lower than the same periods of 1925, 1926 or 1929.

The annual expenditures in this country for new passenger cars is about $23 per capita, or less than $2 per month per capita, the statisticians find. The amount of money spent for new passenger cars in the first nine months of this year is estimated at about $379,000,000 below the eight-year average.

* * *

FROM the Hupmobile factory we learn details of the Three-Flag-Breakfast to Breakfast run, in which it is demonstrated that it is possible to eat one's breakfast in Canada one morning, cross the United States and breakfast the next morning in Mexico. That's a large order when you consider the 1,515 miles that separate Vancouver, B. C., and Agua Caliente, Mexico. True, the second breakfast was a late one, it requiring 31 hours, 40 minutes for Jay Smith and John Shores to make the journey in a 1931 100-horsepower Hupmobile eight. But in that time they had crossed from the largest empire in the world, through the second largest country in the world into the oldest country in the Western Hemisphere. With the exception of fuel, water and oil replenishments, there was not a single stop made by the car.

While the car made exceedingly fast time, speed was not the object of the trip. It was made "to demonstrate that the combination of a safe, dependable vehicle and fine roads makes possible long journeys at continued high speed, with modern comfort and safety."

* * *

A VISITOR to the engineering department of Dodge noted a unique graph on the wall which excited his curiosity. This visitor was not an engineer, but he was curious, and asked what the graph showed. He was told that a study of it told the experts the amount of air the modern straight eight type of engine breathed in with each sip of gasoline, and also told how fast the air travels through the carburetor. One could tell by looking at the Dodge chart the proper mixture of air and gasoline for the most efficient and economical fueling of the Dodge eight engine requires fourteen pounds of air to one pound of gasoline, or, changing these figures into volume, the ratio would be approximately 8,600 cubic inches of air to one cubic inch of gasoline, taking the weight of air at sea level and 62.5 degrees Fahrenheit.

These carburetion experts also tell you that at a car speed of sixty miles an hour air is moving through the intake at the rate of 2.5 miles per minute, or 150 miles per hour, about two and one-half times the speed of the car.

* * *

THE Adcraft Club's last meeting had for its keynote speaker Dr. Harold Stonier, education director of the American Institute of Banking, who stirred up the members by showing them the rainbow. Analyzing business depressions and their cures, the doctor cheered them some by telling them that, while it takes on an average of sixteen months for business to strike bottom, it is his opinion that today's depression is now within one month of that level. It takes eighteen months to get back to normal.

"We may have all the wealth in the world, but if we do not make use of exchange, which means the spending of money, we have stymied ourselves against prosperity. Today we have not yet gotten to the point where we have brought the public across the line in buying," declared the expert.

STUDEBAKER HELPS DEALERS ORGANIZE SERVICE DEPARTMENT

THE Studebaker Corporation has taken definite steps to help its dealers increase service sales. This company, recognizing the large volume of service profit that has been slipping away from its dealer body into the hands of the super service station operator, isurging its dealers to meet super service competition with super service,—and telling them how to do it.

In a recent bulletin sent to all Studebaker dealers, the company minces no words in outlining the situation as it exists today. This situation was clearly outlined in the Automotive Daily News May 15, when it admonished car dealers to get their share of the eight billion dollars that would be spent this year for accessories, parts, and service.

What the dealer must do to get his share of this huge expenditure, how he can do it and what the Studebaker factory is doing to help the dealer is summed up in the recent Studebaker booklet "Rip Van Winkle Woke Up!" as follows:

"The automobile dealer must offer a superservice of his own! If the dealer will act now he can more than hold his own—remember, a new building or location is not necessary. Your present quarters will permit an excellent job to be performed.

"First: Start this by placing the Studebaker Preventive Service plan in operation immediately. This plan is an important part of any super-service program. The initial exense in starting this way, is insignificant for it includes no special layout and no new equipment. Only a few forms and the dealer's personal attention are required to start this at once!

"Next: Send in your service station layout so that we can help you arrange your present quarters for this new mode service station program.

"Appreciating the fact that some stations present unusual problems in layout, and that the success of any station is dependent upon proper layout, Studebaker has completed arrangements for a comprehensive service station planning service. This service is available to every Studebaker distributor and dealer without charge. Including the co-operation of equipment manufacturer's departments which have planned hundreds of successful service stations, it is entirely practical and of unquestioned value.

"The importance of this planning service will be driven home with a consideration of the importance of properly locating the various service station departments—not only in their relation of one to another but also to the floor plan of the station.

"Next: Add the equipment necessary to your New Mode Service Station, gradually.

"The fact that the distributor or dealer may not be in a position to purchase the equipment necessary for a complete super-service at one time, need not interfere with his service program. These departments can profitably be equipped and organized, one at a time!

"Each new piece of equipment, if properly advertised at the time it is placed in operation, will prove profitable and will attract the owner to his service station.

"This method of equipping and advertising one department before purchasing the equipment for the next has proven successful in practice! The Paul G. Hoffman Company of Los Angeles, Cal., equipped a number of its service stations in this manner. It found that the advertisement of each new piece of equipment caused an immediate increase in service business. The response to the advertisements of the individual piece of equipment was very gratifying.

"And finally: The car dealer has a distinct edge on these competing gasoline and oil companies, and independent service stations, if he will take advantage of it now.

"The car owner can be made to appreciate the advantages of an authorized service—a service that is supported by information and instructions from the factory, Studebaker trained men, genuine Studebaker parts, and the will of the dealer to retain the owner as a satisfied customer with a view toward a repeat, new or used car sale.

"The owner really wishes to do business with you—his authorized dealer—if you will indicate to him that you want his business—by offering him modern service facilities. Upon carefully analyzing the situation you will find that this modern service includes:

"Modern methods of receiving customers and determining their needs.

"The installation of a Safety Lane which enables the customer to check the safety factors of his car without inconvenience, delay or obligation. (See Pages 8 and 9).

"The installation and arrangement of facilities for catering to the needs of the car owning public speedily.

"The departmentization of his service station to supply diversified services.

"The maintenance of a balanced parts stock which will enable him to supply genuine Studebaker parts to the trade—an important source of revenue to himself and a protection to Studebaker owners.

"As noted in the preceding paragraphs, it is not necessary that all departments of your new mode service station be placed in operation at one time. It is important, however, that you do place your service station on a departmental basis, as outlined below, and add these departments as quickly as your program will permit.

"These new mode service stations of the present day consist of the following departments:

1. **Replacement Parts.**
2. **Safety Lane (including wheel aligning, brakes and headlight service).**
3. **Car comfort and safety.**
4. **Electrical.**
5. **Lubrication and tightening.**
6. **Car washing.**
7. **Polish and touch-up.**
8. **Tire.**
9. **Road Service.**
10. **Gas and oil.**
11. **Cooling System.**
12. **Emergency Repairs.**

"Please note that there are twelve distinct departments in the new mode service station. While this arrangement may be varied slightly to meet local conditions you will find that this division is basically sound and can be safely followed."

Personal Briefs

Newark, N. J., Oct. 2.—President E. J. Foley of the Newark Automobile Trade Association, Chevrolet dealer, whose chief recreations are golf and fishing, spent the week end at Seaside Park fishing for bluefish and striped bass.

Fort Worth, Tex., Oct. 2.—Lucien H. Wright, head of the Wright-Crossman Motor Company, Oakland-Pontiac dealer here, has been elected president of the Southwest Motor Club. The club, to be affiliated with the American Automobile Association, has just been organized here.

Milwaukee, Wis., Oct. 2.—J. Warren Snell, for many years a prominent figure in the automotive business in Madison, Wis., has been named assistant general sales manager of the Jessie Smith Auto Company here, Hudson-Essex distributor for central Wisconsin and upper Michigan.

Montgomery, Ala., Oct. 2 (UTPS).—L. A. Van Sandt has been appointed sales manager for Segrest-Gentry Motor Company here.

Dealer Uses Two Types of Ads for Used Car

HOPE I MAKE IT
You can't blame a chap for hurrying over here when he sees the fine used car values his friends get at this reliable place. However, there are always plenty more at Hudson County Buick.
HUDSON COUNTY BUICK CO.
A. R. SOUTHWORTH, President
Main Office: 870 Bergen Ave., Jersey City
At Bergen Square—Phone Del. 6000
OPEN EVENINGS
NOW!---BUY A
USED CAR
Real Values
Easy Terms
A used-car that will operate 100% is as good as a new car. And you save much money too. We have a particularly fine showing of used cars now—and remember that they each carry a full guarantee.
Special This Week
1927 Packard Limousine $395
SON COUNTY BUICK CO.
A. R. SOUTHWORTH, President
rgen Ave., at Bergen Sq., Jersey City
levard - - - North Bergen
OPEN EVENINGS

TWO TYPES of newspaper advertising found effective by the Hudson County Buick Company of Jersey City, N. J., are reproduced here. One, the so-called straight ad, headed, "Now!—Buy a Used Car," contains a special for the week and points out the guarantee for 100 per cent. operation and easy terms. The second piece of copy is based to catch the eye and portrays a man running to the showroom to get in on the ground floor. After pointing out that "you can't blame a chap for hurrying," the copy goes on to say "However, there are always plenty more at Hudson County Buick." This psychology is used to bring in those prospects who might think that the cream of the stock had already been skimmed by the early comers

Garage Concern Successfully Handles Line of Outboard Motors and Boats

MILWAUKEE, Wis., Oct. 2.—The Ruggles Motor Service Company, one of the oldest garage concerns in Milwaukee, has for the past several years been handling a line of outboard motors and boats with good success. The concern was founded in 1905 by Chester L. Ruggles, and he sold the Case automobile until 1928, when production of this car was discontinued. Since that time the Ruggles Motor Service has been engaged in only garage service work and the sale of outboard motors and boats.

According to Mr. Ruggles the combination is a happy one. He employs fourteen mechanics, a number of whom have been with him for many years. By means of his two diversified lines he is able to keep his mechanics the year around, with the result that his patrons, both in the automobile and the marine divisions, knew them by their first name, and have come to know that they can be relied on at all times.

The motor boat salesroom is a distinct building from the garage, and, according to Mr. Ruggles, it is the only exclusive motorboat salesroom in the Middle West that is a separate building from the marine department. Neither division is slighted at any time, Mr. Ruggles stated, although the seasonal element accounts for a larger garage business during the winter months than in the marine department.

However, the concern stores and overhauls numerous motors during the winter months, and in this manner maintains a fair degree of activity in the marine division. Four mechanics are ordinarily employed here and the remainder work in the automotive division, although most of them are interchangeable and acquainted with both divisions through their long period of contact with the concern.

The company maintains four service cars, which are equipped for automotive or outboard motor jobs. Ruggles Motor Service Company advertises regularly both on billboards and in newspapers. The concern has fifteen hand-painted billboards in and around the outskirts of the city, measuring from 8x15 to 12x40 feet. Direct mail advertising, calling attention to its various automotive and motorboat services, is also done regularly.

In addition, the firm advertises its outboard motor line at home and outdoor shows held at the Milwaukee Auditorium. Mr. Ruggles has found that maintaining displays at events of this kind, has done much toward keeping the name of his concern before the public. Besides this, Mr. Ruggles is an active member of the advancement association in his district and a strong advocate of community spirit and consciousness. He has found that this kind of spirit pays good dividends in his business.

His garage business has continued at a steady pace each year and showed a gratifying increase within the past several years. At the same time his marine department has been operating on a profitable basis. Although 25 years old, the Ruggles Motor Service Company, is one of the most progressive concerns of its kind in Milwaukee, and the added outboard motor line has permitted the concern to keep its mechanics the year around and furnish them with a sufficient amount of work at all times. The result is that the concern has made a name for itself as maintaining a staff of efficient and expert mechanics and operating on a modern and businesslike basis.

Dealer Activities

Chicago, Oct. 2.—Butler Motors Inc., recently appointed as Hudson-Essex distributor in the Chicago area, announces the Dampman-Schmitt Company as new dealer in Evanston, thereby giving this line of cars a strong sales and service representation in that prosperous suburb, adjoining this city to the north. Headquarters of the Dampman-Schmitt Company will be at 1820 Ridge Avenue.

Troy, Ala., Oct. 2 (UTPS).—The Mary-Hall Motor Company has moved into a new location in the Caroll Building, in the rear of the First National Bank Building.

Vancouver, B. C., Oct. 2.—Bingham-Tyrwhitt Motors, Ltd., has just removed from 1326 Granville St., to new showroom and office premises at 1350 Howe St., Vancouver. The company is distributor for the Graham-Paige automobiles here.

Jacksonville, Fla., Oct. 2.—Claude Nolan, Inc., distributor for Cadillac and La Salle automobiles, has been appointed representative here for the new General Motors radios, according to an announcement by the General Motors Radio Corporation. Associated with Mr. Nolan in the management of the radio division is J. C. Kellam, who has been connected with the General Motors Corporation for the past four years.

Fort Worth, Tex., Oct. 2.—The Austin West Texas Company has moved from 304 Taylor St. into redecorated and remodeled quarters at 201 West 7th St. Complete service facilities have been provided for Austin users.

Raleigh, N. C., Oct. 2.—A charter has been granted to the Ingram-Garner Motor Company of Asheboro to buy, sell and otherwise deal in automobiles, trucks, and automobile and truck parts and accessories. Authorized capital stock $100,000, subscribed stock $13,000 by H. L. Ingram, J. P. Garner, DeEtte Ingram, and Ruby Garner of Asheboro.

Davenport, Ia., Oct. 2.—Warren C. Skinner, Moline, Ill., has organized the Warren C. Skinner, Inc., to handle sales and distribution of Auburn and Cord cars in the tri-cities as well as eleven adjacent Iowa and Illinois counties. Sales rooms are established at 418-26 East 2d St. W. Stuart Riley is sales manager for the corporation.

Tacoma, Wash., Oct. 2.—W. O. McLaughlin, who recently purchased the Bishop Motor Company, South Tacoma Hudson-Essex dealer, has changed the name of the concern to the McLaughlin Motor Company. Jack Thompson will continue as sales manager for the company.

FRENCH SALON OPENED G. M. PRIVATE EXHIBIT

New York, Oct. 2.—The French automobile salon formally opened opened tomorrow at the Grand Palais, Paris. Many countries will be represented among the 100 different makes of automobiles exhibited at the show.

Twenty-three models made in the United States are presented.

General Motors, having withdrawn from the salon, is exhibiting its ten models at a private exhibition at its showrooms at the Champs-Elysees.

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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Replacement Demand

IN a recent issue of the Automotive Daily News there appeared a compilation that we cannot but think was worthy of earnest consideration by every one connected with the automotive industry and particularly by dealers and salesmen.

The figures in question indicated that 1930 new car sales in this country will not even meet the normal vehicle replacement demand. The life of a car today is usually considered to be about seven years. Seven years ago, in 1923, the production total of our industry was 4,180,000 in round numbers. During the same year our motor vehicle exports, including the output of foreign assembly plants and Canadian production, totaled 381,000. This leaves 3,799,000 vehicle units absorbed in the domestic market during 1923. The assumption is that all of these vehicles will go out of service during the year 1930.

Now sales figures for eight months of the year are practically complete and it is already evident that the total for domestic sales will not run much over 2,700,000 units. If we grant this, it is evident that domestic sales have not met the normal replacement demand by more than 1,000,000 vehicles.

Surely we are justified in believing that this million vehicle units represents fairly accurately the delayed market that has been piling up during the business recession of 1930. Obviously, also, this takes no account of a normal increase in sales due to increases in population from year to year.

It must not be taken for granted that the entire million sales delayed this year by the economic condition of the country will appear in the 1931 market. It is possible that general business conditions might compel a certain percentage of vehicle owners to continue to use cars in 1931 that they would normally have turned in at the beginning of 1930. But even allowing for all this uncertainty, it is perfectly apparent that the market next year is going to get considerable benefit from the delay in buying in 1930. Just how much this benefit will be, only time can tell, but if there is anything certain in business it is that automobile dealers are going to enjoy a much more profitable year in 1931 than they did during the present year.

These figures are worth considerable study by any dealer who still feels doubtful regarding the outlook for next year.

Seasonal Profits

DURING the next few weeks the wide-awake service manager has one of the most profitable seasons of the year. The motor vehicle is so constituted that it needs certain seasonal attentions. In the spring it needs certain obvious maintenance operations to get it ready for the active motoring ahead. In the fall the car or truck must have certain attentions if it is to meet the harder conditions of cold weather operation and maintain its efficiency.

Preventative service is worth all the curative measures that can be taken, and yet the average vehicle owner is temperamentally averse to taking time by the forelock. He waits until something has happened before he calls on the service department. Most of this is pure thoughtlessness. If the need for seasonal service were called to the attention of every car and truck owner in the country, a majority of them would probably heed the warning.

The service manager who sits and waits for the fall seasonal business to drift into his shop is going to miss most of it. This is one of the times of the year when honest service sales will yield the most immediate and profitable return. Advertising in local newspapers will bring results and so will direct calls on clients. We know of one service manager who calls up on the telephone every owner on his regular list, beginning on the first of October, and reminds them of various seasonal needs. He has found that this personal solicitation pays dividends.

Denver Dealers Report Sales Off in Sept.; Expect Good Fall

(Continued from Page 2)

that fall and winter business will turn out very satisfactorily.

At the present time, buyers are holding off in this locality until crops are harvested, and the money comes in. When that time comes a good resumption of business is forecast.

J. W. Montgomery, vice-president of C. S. Norton, Inc., local Hupmobile dealers, says that while a certain drop was experienced in September, general conditions are not bad, and sales were made despite the tendency of many buyers to hold off. He is of the opinion that the slump was only temporary

Bernard Mahoney of the Murphy-Mahoney Motor Company, north Denver Chevrolet dealers, says that the used car market is picking up some, largely because of the company's campaign to reduce its used car inventory.

Sales of new cars are holding up very well. Trades are being made very carefully.

Cullen-Thompson Motor Company, Chrysler distributors, experienced the same drop in sales during September.

W. J. Thompson declares that both new and used car sales were off, but that a fair volume of business is in prospect for the fall. June, July and August were described as very good, with sales of used cars slowing up in August and September. New car sales are at present dull, although within the past few days more activity has been noted.

According to Harry Graham, sales manager for James Colorado Reo, Inc., both new and used cars have been moving well ever since early in the summer. The used car situation with this firm is in exceptionally good shape, with a very low stock on hand.

As far as new car sales are concerned, Mr. Graham says that the company kept well up to its monthly average in September.

Summer business with this company was very good, and the way in which fall business is opening up so far is evidence, according to Mr. Graham, that the remainder of the year will show up as good or better than last year.

O. B. Roney, manager of the Auburn-Cord dealership in this city declares that during the past thirty days a much better business feeling has been apparent, based on the fact that excellent crops are in prospect, and that there is a strong anticipation of money.

Used car sales with this company have shown some improvement of late, although Mr. Roney regards the stock as still somewhat high, and is making strenuous efforts to reduce it. Stock on hand, however, is not regarded as excessive.

New cars are holding up very well in sales, although more selling effort is required. Something of a drop has been experienced since September 1, although this is believed to be temporary.

COMING EVENTS

SEPTEMBER

29-Oct. 4—Pittsburgh, Pa. National Safety Council Annual Safety Congress.

OCTOBER

2- 3—Tulsa, Okla. American Institute of Mining and Metallurgical Engineers, Petroleum Division, convention.
2-12—Paris, France. Automobile Salon.
6- 7—Reading, Pa. Pennsylvania Automotive Association Convention
6- 8—Tulsa, Okla. American Society of Mechanical Enigineers Petroleum meeting.
6-11—Washington, D. C. Sixth International Road Congress
6-11—Washington, D. C. American Roadbuilders' Association Convention
7- 8—Detroit, Mich. Society of Automotive Engineers production meeting at Book-Cadillac Hotel
11-26—Dallas, Tex. Southwestern Automobile show.
13-15—French Lick Springs, Ind. American Society of Mechanical Engineers general meeting.
14-15—Syracuse, N. Y. New York State Dealers' Association Convention
15-17—Washington, D. C. Society of Industrial Engineers' convention.
16-25—London, England. Olympia Motor Show
22-24—Pittsburgh, Pa. Society of Automotive Engineers transportation meeting

NOVEMBER

4- 7—Chicago, Ill. National Tire Dealers Association Convention
7- 8—Cleveland. National Battery Manufacturers Association meeting at Hollenden Hotel.
6-16—Berlin, Germany. International Automobile Show
8-15—Chicago, Ill. Automobile Salon at Drake Hotel
13-19—Cleveland, O. Motor and Equipment Association and National Standard Parts Association, Joint Show.
13-23—Paris, France. Commercial Vehicle Salon.
14-15—Los Angeles. Western Motor Clubs conference.

DECEMBER

6-17—Brussels, Belgium. Automobile Exhibition.

AYRES AND KLEIN SEE TRADE GAINING

(Continued from Page 1)

investments in all countries of the world. In 1920-21 the world-wide price drop was, top to bottom, 45 per cent. In 1929-30 the world-wide price drop, on the same basis, was 14 per cent., which points out to us that our condition today is not as bad as we think it is.

"What we need is not stabilization, but equalization, a more even balance between production and consumption. World population in the past six years has increased 10 per cent., while the production for raw material has increased 24 per cent. The production of raw material in the United States being equal to world production and standing at 24 per cent., Europe is in even a worse condition, with a 31 per cent. increase in the production of raw materials, with nothing like the improvement in living standards.

"My advice to manufacturers and distributors of merchandise is, watch markets. Many of them, I am sorry to say, do not watch them. With the increased facilities for the rapid transmission of information, we must remember that style changes are broadcast daily to every hamlet in this country, and that in order to meet competition and definitely regulate our production of goods, we must keep close track of the buying power of the consumer, as well as take full account of style changes.

"As an example, may I point out to you the experience of New England shoe dealers who complained to the Department of Commerce that an important market of their had fallen off. Upon examination, it was found that she manufacturers in Czecho-Slovakia had American representatives radio photographs of the latest shoe styles as designed in America. It was also found that Czecho-Slovakian shoes could be delivered in America within fourteen days. New England shoe dealers must speed up to keep pace with the time and meet competition in world markets.

"The buying power of the individual fluctuates from day to day everywhere. And although there are those who would tell us that the individual buying power is decreased, the fact remains that the increased use of electricity during the first six months of 1930 is marked at one billion kilowat hours more than during the same period of 1929. Department store sales are only 7 per cent. below 1928, and so it goes.

"Synthetics have a big place in the manufacture of goods today. A stunt recently performed by a Cambridge, Mass., chemist was to send to a packing plant for the ears of a sow, and by mixing certain chemical ingredients with the sow's ear he did make a lady's silken purse. Keep your eye on the chemist. The manufacturer who is more than 24 hours away from chemical analysis is in grave danger. It is essential to keep in touch with chemical research in order to keep pace with the development of business.

"Our financial position is stronger now than it has ever been. Savings banks deposits are up 115 per cent. since 1929. Building and loan association deposits are up 271 per cent. since 1919. One hundred ten billion dollars life insurance is in force today. In 1896-1913 wages increased at the rate of 2 1-3 per cent. each year, while food stuffs kept an exact pace with this increase, showing identically the same figure. Since the war, wages have increased 2.1 per cent. per year, while the cost of living has shown no increase. For wages over $1,000 paid this year, the cut has been less than $1."

Dr. Klein will sail on October 18 to make a survey of economic conditions in Europe.

CHECKER CAB EARNINGS IN HALF YEAR $500,074

New York, Oct. 2.—Consolidated income account of the Checker Cab Manufacturing Corporation and subsidiaries for six months ended June 30, 1930, follows: Gross profit from sales of cabs, service and miscellaneous sales, $1,037,752; selling general and administrative expenses, $521,688; operating profit, $516,064; other income, $99,576; total income, $615,640; depreciation, $57,096; provision for bad debts, etc., $48,905; reserve for Federal taxes, $9,565; net income, $500,074.

GOODYEAR OF CANADA

In a statement accompanying current dividend checks, C. H. Carlisle, president and general manager of the Goodyear Tire and Rubber Company of Canada, says the annual statement for fiscal year ended September 30, which will be issued shortly, will reveal that, after writing down inventories to current market value, lowest in history of the rubber industry, company will be in a position to add to surplus account. Speaking of operations, Mr. Carlisle says earnings will not be comparable to those of normal years, due to condition in the industry.

"During the year the company enjoyed a larger percentage of average business and relatively has increased its position," the letter says. "However, the rapid decline in market price of both cotton and rubber and material decline in unit value and prices of finished goods have made it impossible for the company to show earnings comparable with normal years."

CHRYSLER WILL CLOSE BERLIN ASSEMBLY PLANT

Berlin, Oct. 2.—The Chrysler assembling plant at Johannesthal, near Berlin, will be closed. Decreased business in the German market is responsible for the move.

LEGAL NOTICE

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of Automotive Daily News, published daily except Sunday and Monday at New York, N. Y. for October 1, 1930.

STATE OF NEW YORK, } ss.
COUNTY OF NEW YORK }

Before me, a notary public in and for the state and county aforesaid, personally appeared H. A. Tarantous, who, having been duly sworn according to law, deposes and says that he is the business manager of the Automotive Daily News and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:—

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Automotive Daily News Publishing Corporation, 1926 Broadway, New York; editor, Alexander Johnston, 350 Hudson St., New York city; managing editor, none; business manager, H. A. Tarantous, 2716 Graybar Building, New York city.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent. or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Automotive Daily News Publishing Corporation, 1926 Broadway, New York, N. Y. Stockholders: Macfadden Publications, Inc., 1926 Broadway, New York, N. Y. Stockholders in Macfadden Publications, Inc.: Bernarr Macfadden, Linden Avenue, Englewood, N. J.: O. J. Elder, 276 Harrison St., East Orange, N. J.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is 19,145. (This information is required from daily publications only.)

H. A. TARANTOUS,
Business Manager.

Sworn to and subscribed before me this 1st day of October, 1930.

[Seal] HELEN A. DAVENHAUER,
Notary Public.

(Queens County Clerk's No. 317, Reg. No. 4877. Certificate filed in New York County, New York County Clerk's No. 445, Reg. No. 1D359. Commission expires March 30, 1931.)

Unique Examples of Luxurious Bus Design

FOUR VIEWS of the new Mack Salon Club car. Upper left, looking forward, showing built-in buffet; upper right shows Pullman-type table; center is exterior view; lower view shows attractive grouping of equipment in the solarium. The cabinet shown contains both the radio and the heating unit.

AMONG the recent developments in bus body interiors which have a decided effect upon long distance bus travel are the Mack salon club car by Mack Trucks, Inc., and the de luxe body for chartered bus service recently completed by the Public Service Co-ordinated Transport of New Jersey, in its Newark shops.

The new Mack salon club car is designed to attract a class of patronage which demands the utmost in comfort, and is willing to pay for it.

Mounted on a Mack Model BK chassis, the "big six" of the Mack bus line, the new club car has a capacity of twenty-three passengers and is divided into three sections.

The driving compartment is entirely separated from the passenger section by a built-in bulkhead which reduces the drone of the motor to a soft purr; isolates the driver and steward from the passengers and prevents passengers from watching the highway through the windshield.

Passengers who have reclined in the railroad type club chairs state that no matter how fast the bus travels, there is no feeling of excessive speed and that greater comfort and relaxation is possible than with any other mode of travel on wheels.

The entrance at the front is through a cabin-lounge seating five passengers, which if necessary may be made up into two berths for the crew. A side door leads through the bulkhead into the salon club which accommodates ten passengers. Six of the seats are of the movable club chair type which face toward the center of the bus. Built into the forward bulkhead is a buffet, water cooler and small refrigerator.

There is silver, china and glass service for eighteen passengers. Luncheon or refreshments may be served by placing small table attachments to each of the arm chairs, a very simple operation, and by setting up the pullman tables, which accommodate four people. These tables may also be used for card playing.

From this front section, a 16-inch aisle leads between four comfortable back to back seats completely covering the wheel housings, into a solarium, having four movable club chairs. The solarium contains the radio and Tropic-aire heater, the latter being cleverly concealed within the radio cabinet. Here the window construc- every sixty second, so that under tion permits an uninterrupted view through both sides and the rear.

Other innovations are the drop-sash windows, equipped with roller screens, making it possible to keep all windows open while at the same time preventing the entrance of insects and cutting down the inrush of air when the bus is traveling at high speed. Electric fans and ventilating fans in the rear portion of the roof change the air

adaptable to long distance tours by clubs or committees. It can be readily used in place of the private railway car and offers greater flexibility of route and schedule.

A radio receiving set and a refrigerator are features of the equipment.

The new motor coach, which has been built upon the same chassis and with the same body design as the company's new super-service type buses, is equipped with swivel chairs of an unusually comfortable type, which can be turned in any direction the passenger may desire. These seats are upholstered in richly colored velour and have deep, soft cushions.

A special glass-inclosed compartment has also been built around the operator's seat to insure greater privacy for the passengers.

The refrigerator has been installed in the coach so that every facility for serving foodstuffs is available to the party chartering the bus. The radio receiving set will provide music and entertainment en route.

Interior view of new Public Service bus

In the Bus Field

Decatur, Ill., Oct. 2.—The Nokomis Bus Line, Inc., has inaugurated bus service between here and Pana and has an application pending befor the state Commerce Commission for bus lines between Hillsboro and East St. Louis and from this city to Chicago via Bloomington.

Jersey City, N. J., Oct. 2.—The Grossman Bus Company, Inc., has been formed here with a capitalization of 100 shares no par. C. Grossman, Walter Funk and Frank P. McCarthy, Jersey iCty, are the directors.

Nashville, Tenn., Oct. 2 (UTPS).—A. L. Johnson, Pulaski, Tenn., owner of the Pulaski Oil Company, has taken a fifteen-day option on a vacant lot in Pulaski at a price of $11,000. Mr. Johnson plans construction of a modern service station and probably a bus terminal on this property, which is at the intersection of three state highways.

New Britain, Conn., Oct. 2.—Mastco, Inc., has been granted a certificate by the Public Utilities Commission for the operation of a motor bus service between the corner of Main and South Streets and Christian Lane and South Street.

Lincoln, Neb., Oct. 2.—The Weeping Water-Louisville bus line has been granted authority by the state Railway Commission to increase its present service to include bus service from Omaha to Lincoln, Neb., via Weeping Water, and to change schedules between Omaha and Weeping Water.

Tallahassee, Fla., Oct. 2.—The Florida Railroad Commission, September 26, granted the Georgia-Florida Motor Lines permission to replace its sedan service with large buses on State Road No. 4 between Jacksonville and Miami.

Rockford, Ill., Oct. 2.—The Peterson Bus Lines, Inc., has applied for authority to establish bus line service between here and Belvidere on half-hour schedule. The Pickwick-Greyhound buses are now operating over the route. Selby Peterson, Belvidere, is president of the firm.

Syracuse, N. Y., Oct. 2.—Charles Memphis Street Railway plans to use buses on thoroughfares not served by street cars, it is learned. The Tennessee Public Utilities Commission has approved the establishment of one bus line from the end of the Popular Avenue car line to Highland Avenue, serving the new Fairview Junior High School. The line will be established as an experiment, it was stated.

Lincoln, Neb., Oct. 2.—The R W. Coppack Bus line of Lindy, Neb. has opened a bus line between Lindy and Hartington, Neb.

Production -- Engineering -- Factory -

Baird Machine Announces New 6-Spindle Lathe

BAIRD MACHINE COMPANY, Bridgeport, Conn., has announced the development of a new horizontal 7x8 inch six-spindle lathe.

In this machine the center bar carries the turret containing the tail centers, this bar and turret indexing with the spindle turret. The tail center turret is adjustable longitudinally on the bar to accommodate varying lengths of work within the capacity of the machine, which capacity is about eight-inch maximum length.

To prevent the work from becoming loose between centers due to the strain of heavy cuts, the Baird six-spindle lathe has a novel tail center. While the work is at rest on the centers, a spring member takes up any slack or looseness, after which the center is again locked.

The machine is regularly provided with four longitudinal slides which are carried on the head and tail stocks of the machine and receive their motion from the cam drum in the head. Through adjustable link connections, each slide can be given the same or a different stroke.

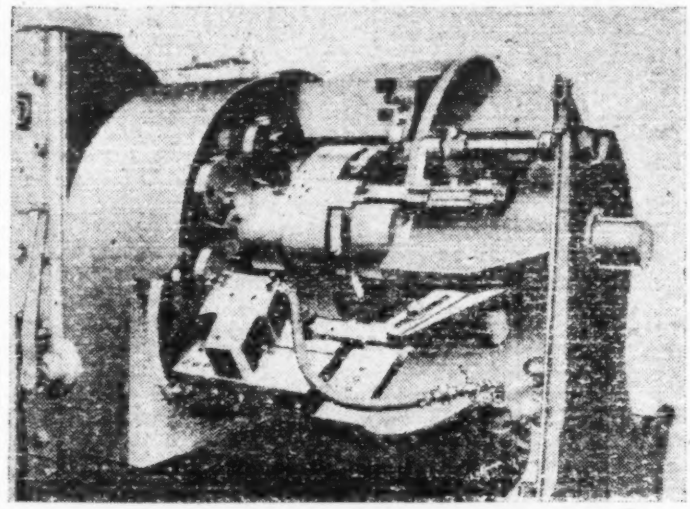
On this class of work the machine would be set up usually to operate "double indexing," two pieces being unloaded and loaded at each cycle of operations, the turrets indexing two stations at each movement and what is equal to two lathe operations is available for each piece.

To facilitate loading and unloading, a foot treadle is provided by means of which the operator withdraws the tail centers at the loading stations, thus leaving both hands free to handle the work. When putting two new pieces of work on the center, one tail center is fully advanced before the other so that the operator can give his attention to locating each piece in turn.

Should the occasion require, the machine may be set up "single indexing." In this case, one piece of work would be unloaded and loaded at the same cycle and the regular four longitudinal slides and another mechanism, equal to five lathe operations, would be available for each piece.

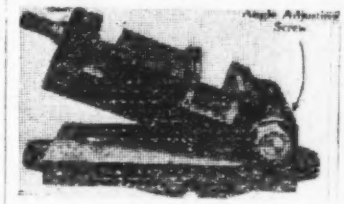
Should the work require fewer turning operations than are available, but require cross drilling or some similar operation, attachments (including a cross slide if needed) could be provided, and in case of cross drilling, the work would be held stationary instead of revolving as for turning.

This machine, according to officials of the company, was designed to meet the need for a machine to handle work which must be held on centers. If needed, chucks or special forms of driving mechanism could be employed.



Front view of the Baird 7x8-inch six-spindle lathe

MACHINE VISE IS ADJUSTABLE



Palmgren adjustable vise

THE Chicago Tool and Engineering Company are marketing a machine vise known as the Palmgren adjustable vise, with the base and body hinged so that the base can be bolted to the table of the machine, while the body is tilted at an angle.

Graduations are provided so that settings can be duplicated when resetting work.

Specifications

Width of jaws	6 inches
Depth of jaws	1 7/8 inches
Jaws open	4 inches
Weight	80 lbs.
List price	$95.00

WISCONSIN AXLES

The sturdy dependability of Wisconsin Axles reflects the character of the men and methods that build them—engineering ability and high production standards — outwardly expressed as performance.

WISCONSIN AXLE CO.
Oshkosh, Wisconsin

Cumulative New Commercial Car Registration Statistics, August, 1930

Comparative figures for August, 1929, on Page 11.

Returns for today: Maine, Massachusetts and New York.

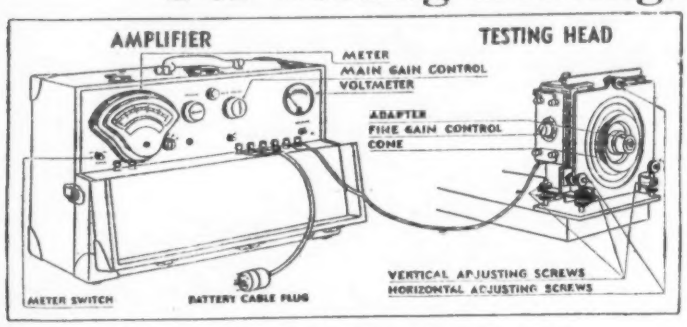
Some of this data has been published previously, but it is given here complete for the convenience of our subscribers.

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies. Commercial Car Registrations do not include buses.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Alabama			222		2				239		2	2			4					2		2				475	Alabama
Arizona			39		5				73	1	6	1	1		3				1	1					1	137	Arizona
Arkansas			117		6		1		124	2	21				1						1	1	3		4	281	Arkansas
California	6	3	467	14	53	1		9	1304	47	51	28	4		51	3	19	28	4	5	1	34	4		93	2234	Calif.
Conn.	3	7	120	8	13	1	3	7	218	18	17	14		1	15			4	14	5		5	2		11	496	Conn.
Delaware	1	1	22		2				50	1	1				1				2			2			2	85	Delaware
Florida			109						202																	311	Florida
Georgia	3	2	287		10			1	371	8	16	2	1		5		1				1	2	2			712	Georgia
Idaho			121		3		3		183	6	27	2			2			1		1			3			352	Idaho
Illinois	5	3	360	22	26	1		7	587	12	120	10	1	1	14	3		4	1		3	10	2	3	105	1300	Illinois
Indiana	1	15	276	7	14	4	3	3	432	19	52		2	3	11				4	2	4	3	11		6	872	Indiana
Iowa		1	293	3	14		3	1	327	8	31	4	2	1	17		5		1	3	2	1	2	1	5	778	Iowa
Louisiana			170	1	7				215	4	20	2			2							3	1			425	Louisiana
Maine	1	1	133	1	7				184	4	26	3			5						5	2	4			376	Maine
Maryland	4	5	103	3	7		3	3	221	9	30	11			10	4	1		3	1		21	4		16	459	Maryland
Mass'setts	23	12	187	34	45	4	4	16	626	31	51	13	2		22	1	2	7	11		1	28	1	1	8	1130	Mass.
Michigan	1	4	161	1	14		2	9	417	10	24	3	1		5	1	1			1		2	7	2	15	681	Michigan
Minn.		2	284	15	19		3	4	501	6	33	2	2	1	15	2	2			2	3	2	21	4	2	935	Minn.
Missouri	6	3	340	16	20	2		3	593	20	24	9	2		6	2		1	2	3	5	8	7	1	26	1164	Missouri
Montana			97		8		6	1	138	2	33	1			7					1	1	6	4	1	3	419	Montana
Nebraska			201		7		1		270	9	74	4			4		1			3			3	1	3	581	Nebraska
Nevada			20		1				34	2	1		1									3			1	63	Nevada
N. Hamp.		1	42	5			3	1	104	2	7	3	1		6					1		2				178	N. Hamp.
New Jersey	18	19	285	13	41	1	5	7	726	30	66	29	1	1	15	4	5	10	8	4	2	24	6	5	35	1360	N. Jersey
N. Mexico			85	1	4				98		15				4						1			1	1	210	New Mex.
New York	46	91	591	74	65	6	11	12	1581	98	201	129	2	5	52		5	15	80	20	12	71	3	3	86	3255	New York
N. Carolina			217		9	1	1		252	3	15	3			3						3				7	514	N. Car.
N. Dakota			71		3		2		72	2	36				1								1			187	N. Dakota
Ohio	4	9	411	2	36		6	12	771	34	101	6		4	12	2	6	1	11	2	5	39	15	9	40	1541	Ohio
Oklahoma		9	218	1	25		3	5	311	11	41	6			1				1	1	2	8	2		5	650	Okla.
Oregon	2		84		6		1	1	184	8	18	2			3		2	3		3		4	2		12	335	Oregon
Penn'vania	40	30	535	7	72	5	8	12	1345	54	168	68	2	5	31	8	12	20	39	9	10	48	14	3	41	2307	Penna.
Rh. Island	1	1	40	2	10		4	1	109	6	7	1			6	2	1	1	2		1	5			1	201	Rho. Isl.
S. Carolina		10	96					7	156	8	3	4										3			9	296	S. Car.
S. Dakota			139	7	7				146	1	94				5		1						4	2	2	408	S. Dak.
Utah			35		2				67	4	4	1			2		1								1	107	Utah
Vermont	1	1	40	3	5				32	2	19	1			4					2	1		2	1		164	Vermont
Virginia	3	4	216		7	1		1	243	8	16	12		1	5	3					3	6	1		4	534	Virginia
Wash'ton			149		5		1	3	427	17	42	8			10		2	1		2	1	8	5		21	702	Wash'ton
W. Virginia		3	113		14		2	1	149	8	14		1	1	6	2					3	2	2		5	326	West Va.
Wisconsin		1	252	19	15			2	393	16	71	2		1	14		2	4		1	2	3	10		5	813	Wisconsin
D. of Col.	2		27	2	6				93	4	4	2			1		1	2		1		5			1	156	D. of C.
Totals	171	238	7786	261	615	27	79	129	14693	534	1825	388	26	25	380	37	70	102	184	76	73	363	148	38	582	28850	Totals

Equipment - - - Development

Acoustimeter Developed For Testing Bearings



An outline view of the Burgess Bearing Tester

THE BURGESS bearing tester is one of a group of acoustimeters developed by the C. F. Burgess Laboratories, Inc., Chicago.

This instrument is especially designed to test the quality of assembled ball and roller bearings. Noteworthy attainments are the accuracy and speed of inspection made possible.

Description of Instrument

The Burgess bearing tester consists of only three main parts:

1. The testing head or pick-up.
2. The amplifier, possessing an especially designed electrical circuit.
3. The meter.

The testing head or pick-up is mounted so that a motor driven spindle extends through it, as shown on the opposite page. (We do not furnish motor or spindle). Accompanying the testing head is a set of cones of various sizes, which are used to test different sizes of bearings. The purpose of the cone is to transmit the vibration of the bearing to the seismo-metric pick-up device in the testing head. Adjusting screws are provided for accurately setting the cone to suit the spindle.

The vibrations of the bearing when picked up are changed into electrical current from the testing which is then sent by a connecting cable to the amplifier.

The amplifier consists of a compact, portable case in which are assembled the meter, switches and controls. A special wiring arrangement in the amplifier changes the electrical current fro mthe testing head into readings on the meter.

The meter is installed in the amplifier case, but can easily be removed and mounted separately on brackets at any point most convenient for the operator. It is from this meter that the readings are taken.

Method of Operation

The inspector thrusts the bearing on the spindle by hand. As pressure is applied the meter is read. The greater the reading on the meter, the greater is the vibration in the bearing.

A boundary mark, determined by a bearing which tests satisfactorily, may be established on the meter. Bearings which cause a reading above this mark should be discarded, while those which show a reading on the mark or lower should be accepted as satisfactory. However, the sensitivity of the instrument permits grading bearings into at least five different classes.

Adjustment Features

A satisfactory bearing of large size might vibrate more than an unsatisfactory bearing of small size. To correct this condition, the amplification obtained in the acoustimeter has been made controllable by the use of two simple adjustments. The main gain control in the amplifier case handles the amplification in rather large steps. A second or fine gain control conveniently located on the testing head controls the amplification in small steys. Correct balance of these two controls makes it possible to use the same dividing line for all classes of bearings, large and small, the same degree of accuracy or quality being preserved in every case.

Even in the best of spindle constructions, certain vibrations, other than those to be measured, may be peresent. Furthermore, the bearing assemblies themselves have certain fundamental frequencies of vibration which depend only on the dimensions of the parts and the number of balls or rollers. To amplify and measure these spindle vibrations in addition to the undesirable bearing vibrations would be a serious mistake. The Burgess bearing tester has accordingly been designed so that frequencies below a certain value do not receive the amplification accorded to those which are indicative of the relative perfection of the bearing.

A zero control has been built into the accoustimeter, to meet another situation. In a given set of bearings, for example, the relative amounts of vibration in good and bad bearings may be in the ratio of 3 to 5. Instead of being forced to use only the upper portion of the meter scale, a limit may be established below which vibrations are not indicated on the meter. With this control in operation the best bearing just indicates on the meter while the poorest gives a full scale deflection.

An output jack with a separate volume control is located in the amplifier case. This permits the use of a loud speaker should it be desirable to hear the character of the vibration. Another feature is that an oscillograph may be connected to the Burgess bearing tester, allowing the character of the vibration to be studied and, if desired, photographed.

The six cones accompanying the tester will take bearings ranging in outside diameter from approximately two inches to six inches. Other sizes will be furnished on special order.

Advantages

The following are claimed by the manufacturers:

1. The tester entirely eliminates guess work and the attempt to judge quality by ear.
2. The amount of vibration in the bearing, rather than the noise made by it, is measured.
3. A minimum of time is required for accurate testing of bearings.
4. Inspection can be made at any place in the factory, thus eliminating the necessity of a quiet room and the transportation of parts for inspection.
5. Bearings tested can be graded more accurately than by the ear method.
6. It enables the manufacturer to scientifically study his bearing design and construction.

ITALY ESTABLISHES CRACKING PLANTS

Italy, under the guidance of Mussolini, is going farther to establish an independent oil industry of its own than any other European country which has no production of crude oil within its borders, according to Dr. Gustav Egloff, member of the Chicago section of the American Chemical Society.

"This is being done by installing cracking plants at strategic points and building great, underground, concrete reservoirs for the storage of fuel oil and other cracking stocks," says Dr. Egloff, who recently returned from a tour of Europe.

"This plan provides for the storage in quantity of only the heavy oils, with practically no loss on evaporation, and small fire hazard. At any time they can be converted by cracking into gasoline.

"In carrying out this program, within the past year two Italian companies have installed cracking units. Another cracking plant is now in course of construction. More oil tanks are also being built.

"Conditions just at this time are particularly favorable to the development of these Italian plans. Almost unlimited quantities of fuel oil or heavy crudes are available from Russia and from Rumania. Conditions prevailing in Rumania are particularly favorable for outside buyers just now.

"It is a fact, testified to by leading Rumanian oil men, that many refineries and producers in that country are practically at a standstill because fuel oil and heavy crude have filled available storage and it is too costly to build additional tanks, in view of the low value of heavy oils.

"I was told on good authority, while in Europe, that some Rumanian refining companies and producers not only are not selling their fuel oils and heavy crudes, which are a drug on the market, but are actually paying other interests to haul these stocks away from their plants, or are burning them to avoid storage charges.

"This condition, of course, works greatly to the advantage of Rumanian refiners who have cracking equipment, and also to the advantage of Italian interests who are purchasing oil.

"While it is realized that great supplies of cheap oil may not be always available from Rumania and Russia, it is generally agreed that fuel and heavy crude oils will be available in large supply for many years to come at a price which will make profitable the production of gasoline by cracking. The United States, Mexico and South America also have tremendous supplies which can be drawn upon when needed.

"The daily cracking in Italy is now estimated at about 7,500 barrels. The principal cracking plants in operation are at Spezia and Naples. Another cracking installation is now building at Venice. These units were designed for great flexibility of operation, to run either on the residuum or the non-residuum system, on light or heavy distillate, residual oils or crude oil.

"It is understood that still more cracking plants are to be erected in Italy."

Fundamentals of Machine Polishing

By ROBERT T. KENT

This is the third installment, in part, of a paper presented before the National Metal Congress by Mr. Kent, director of engineering, Divine Brothers, Utica, N. Y.

The clothflex wheel is used for contour work similar in character to the disk canvas wheel, but with the finer grains. It may be made highly flexible and will adapt itself to curved surfaces, such as shovels, automobile bumpers, and more or less irregular shapes.

The compress wheel is a precision polishing tool of the highest order. It is an all-around wheel than can be used for practically every purpose that any other wheel can be used. Its face can be formed to fit contour surfaces, and by the possibility of regulating its cushion and density it can be made exactly to fit the job it is to do. Due to its high first cost, it is in some cases not the most economical wheel for roughing with the coarser grains, but for all other work up to the finest finishing it is believed to have no equal. Its high first cost is counterbalanced by its extremely long life. Wheels that have remained in service for upward of twenty years are not uncommon, and one instance is known of a wheel that was taken off the polishing lathe after thirty-one years' continuous use.

The compress-canvas wheel is extensively used in the polishing of cutlery, flatirons, shears, skates, golf-club heads, bicycle and automobile parts, machine parts and similar work.

The compress-leather wheel has its field in the initial operation on flatirons, the polishing of carpenter's chisels, plane blades, axes, etc. It is used where edges have to be held sharp, and holes kept free from dragging.

The compress-felt wheel is employed on work where a high color is required, such as surgical instruments.

The compress-sheepskin wheel is comparatively little used, except in those cases where a flexible wheel that will give a very fine super finish is needed.

The compress-paper wheel is adapted to rough work. It has little flexibility, and approximates in its action the solid grinding wheel.

The solid felt wheel is used for polishing glass, and for greasing and coloring operations where a high color is required. It has a distinct field in the polishing of formed surfaces of stainless steel.

The polishing machine should be designed, wherever possible, to maintain a constant peripheral speed of the polishing wheel as close as possible to 7,500 lineal feet per minute. In general, the higher the peripheral speed, the more efficient is the action of the abrasive. The figure 7,500 feet is chosen because this speed is about the maximum at which the glue holding the abrasive to the surface of the wheel will maintain its strength under the action of the heat generated by the operation of the wheel upon the work. An increase in the speed of the wheel would increase the efficiency of the cutting momentarily. It would, however, generate sufficient heat to soften the glue, and thereby permit the abrasive to be torn from the wheel before it had rendered its full service as a cutting medium.

(To Be Continued)

CLARK

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FULLER TRANSMISSIONS

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Rear	Front
Am. La France Chief	2	3650	Own	6	3¾x5	33.0	Pw	Str	Vac	DR	Own	C	4	Tim	Wo	31.2	4	D	156	6200	32x6	32x6D
Am. La France W	3-4	3950	Own 2 R	4	4¼x6	28.9	CS	Zen	Vac	AB	Own	C	4	Own	2R	47.4	4	R	160	7200	S36x5	S36x5D
Am. La Fran. Chieftain	3-4	5500	Own	6	4⅛x5⅛	40.8	Pw	Zen	Vac	DR	Own	C	4	Tim	Wo	28.8	4	D	175	7200	S36x3	36x8D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	54.4	4	R	165	9300	S36x5	S40x6D
Am. La Fran. Big Chief	6	6725	Own	6	4½x6	48.6	Pw	Zen	Vac	DR	Own	C	4	Own	2R	32.8	4W	D	226	10600	S40x8	S40x8D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	—	63.5	4	R	165	10500	S36x7	S40x8D
Austin	—	*	Own	4	2.2x3	7.8	CS	Til	—	Aut-L	W-G	U	3	Sal	Sp	—	4	4	75	——	3.75x18	3.75x18
Autocar A	1½-2	3200	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SA	Sp	27.9	4	R	150	5060	34x7	34x7
Autocar D	2-2½	3500	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SD	2R	33.7	4	R	150	5300	34x7	34x7D
*Autocar SH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Gra	LN	Own T	U	4	Own H	2R	44.3	R	R	114	6770	34x7	34x7D
Autocar SCH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	4	Own H	2R	44.3	R	D	157	6860	34x7	34x7D
*Autocar H	3	4100	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own H	2R	48.6	R	R	114	6770	34x7	34x7D
*Autocar HS	3½	4600	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own C	2R	53.6	R	R	114	7900	40x8	40x8D
*Autocar SHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Gra	LN	Own T	U	4	Own C	2R	53.6	R	R	114	7900	40x8	40x8D
*Autocar SCHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	4	Own C	2R	53.6	R	D	157	8180	40x8	40x8D
Autocar TEA	3-3½	5350	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	12	Own TE	2R	101.7	4	D	192	8900	36x8	36x8D
Autocar TFA	3½-5	6100	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Own T	U	12	Own TF	2R	101.3	4	D	192	9300	38x9	38x9D
Autocar C	3½-5	5500	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Own B	C	4	Own C	2R	61.7	R	D	172	9500	42x9	42x9D
Autocar F	7½	6800	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Br-L 70	C	7	Tim	Wo	94.0	4	D	173	11000	36x7S	40x8DS
Autocar G	10	9000	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Br-L 70	C	7	Tim	Wo	97.7	WB	D	171	13000	36x8	36x8D
Brockway 65	1	1195	Con	6	3⅜x4⅝	27.3	Pw	Zen	Vac	Aut	Br-L	U	3	Col	Sp	21.3	4	Tr	137	3400	30x5	30x5
Brockway 75	¼	1290	Con	6	3⅜x4⅝	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	137	3450	32x6	32x6
Brockway 90	1½	1525	Con	6	3⅜x4⅝	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	149	3650	32x6	32x6
Brockway 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Brockway 140	2	2495	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	156	5500	32x6	32x6D
Brockway 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Brockway 195	3	3820	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Brockway 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Brockway 220	3½	4560	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Brockway 250	5	5950	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Tim	Wo	—	4HV	D	182	10000	40x8	40x8D
Brockway 290	7½	7250	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7	40x14S
Brockway 640	10	9700	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	R	212	14000	38x7	36x10S
Chevrolet	½	365	Own	6	2⅛x3¾	26.3	CS	Car	P	DR	Own	U	3	Own	Sp	13.61	4	R	107	1335	4.75x19	4.75x19
Chevrolet	1½	520	Own	6	3⅛x3¾	26.3	CS	Car	P	DR	Own	U	4	Own	Sp	33.46	4	R	131	2375	30x5	30x5
Commerce Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Tim 54006	Sp	29.2	4		162	4500	32x6P	32x6D
Commerce Series 40	2	3240	Bud D S 6	6	3⅜x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4		168	4900	36x6	36x6D
Commerce Series 40	2½	3240	Bud D S 6	6	3⅜x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4		168	5100	36x6P	36x6D
Commerce Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4		175	7000	36x6P	36x6D
Commerce Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4		175	7100	36x6P	36x6D
Commerce Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B		175	8200	36x6S	36x12S
Commerce Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B		175	8400	36x6S	36x12S
Commerce Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 68700DP	Wo	95.0	B		175	9600	36x6S	40x14S
Day Elder 60	1	1195	Con 25 A	6	3⅜x4	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	36.3	4	R	135	3200	20x6.00B	20x6.50B
Day Elder 85	1½	1645	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	42.3	4	R	135	3750	20x6.00	20x6.50DB
Day Elder 110	2	2095	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	44.9	4	D	156	4600	20x7.00	20x7.00DB
Day Elder 130	2½	2895	Con 16 R	6	4 x4⅛	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	40.7	4	D	150	6300	20x7.50B	20x7.50DB
Day Elder 160	3	3695	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	36.1	4	D	156	6600	20x7.50B	20x9.00DB
Day Elder 200	4	4295	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	43.5	4	D	156	7400	20x9.00B	20x9.00B
Day Elder 240	5	5500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	V	DR	Br-L	C	4	Tim	Wo	50.3	4	D	162	9300	38x9P	38x9DP
Day Elder 285	8	6000	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	V	DR	Br-L	C	7	Tim	Wo	71.2	6	D	164	12000	20x8.25B	20x8.25DB
Day Elder 345	10	7500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	V	DR	Br-L	C	7	Tim	Wo	79.9	4	D	164	12500	20x9.00B	20x9.00DB
Day Elder 402	12	8500	Con 16 R	6	4⅝x5¾	54.2	Pw	Zen	P	DR	Br-L	C	7	Tim	Wo	84.6	4	D	164	14000	20x9.75B	20x9.75DB
Diamond T 270	1	785	Bud	4	3¾x4½	22.5	*Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	128½	3050	30x5	30x5
Diamond T 215	1	885	Bud	6	3⅜x4	27.3	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	135⅛	3150	30x5	30x5
Diamond T 290	1½	1475	Her WXA 2	6	3½x4½	29.4	Pb	Zen	Vac	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5D
Diamond T 303	2	1745	Her WXB	6	3¾x4½	33.7	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	160¾	4850	32x6	32x6D
Diamond T 551	2½	2250	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	168	5600	32x6	32x6D
Diamond T 503	2½	2660	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Wo	—	4	D	174	6200	34x7	34x7D
Diamond T 506	2½	2820	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Wis	2R	—	4	D	172½	6300	34x7	34x7D
Diamond T 602	3	3440	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	4	D	169½	7500	36x8	36x8D
Diamond T 606	3	3500	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	U	4	Wis	2R	—	4	D	186	7500	36x8	36x8D
Diamond T 700	3½	3740	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	R	D	162	8100	S36x5	S36x10
Diamond T 801	4	4140	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Br-L	C	7	Own	Wo	—	6WH	D	189½	8300	36x8 4 wh	36x8
Diamond T 1000	5	4420	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	4	Tim	Wo	—	R	D	170½	9700	S36x6	S40x12
Diamond T 1200	6	5600	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	180	11000	34x7 4 w h	34x7D
Diamond T 1600	8	6220	Her YXC 3	6	4⅝x4¾	51.3	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	190	11700	36x8 4 wh	36x8D
Diamond T 1601	8	7500	Wak 6 R B	6	5 x5¾	60.0	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	12500	36x8 4 wh	36x8D
Diamond T 2500	10-12	8000	Wak 6 R B	6	5 x5¾	60	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	13100	S36x7 4 wh	36x12S
Dodge Bros. UF10A	½	435	Own	4	3⅝x4¾	21.2	Pb	Car	P	DR	Own	U	3	Own	Sp	14.28	4	D	109	1855	5.00x19	5.00x19
Dodge Bros. F 10 A	½	515	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U	3	Own	Sp	14.28	4	D	109	1960	5.25x19	5.25x19
Dodge Bros. U-1	¾	695	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	3	Own	Sp	21.68	4	D	124	2260	5.50x20B	5.50x20B
Dodge Bros DA1	¾	795	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	140	2955	30x5	30x5
Dodge Bros. UF30A	1½	595	Own	4	3⅝x4¾	21.0	Pb	Car	P	DR	Own	U	4	Own	Sp	37.17	4	D	136	2665	6.00x20	32x6
Dodge Bros. F 30 A	1½	695	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U	4	Own	Sp	37.17	4	D	136	2765	6.00x20	32x6
Dodge Bros. F 35 A	1½	1425	Own	6	3⅜x27⅞	27.3	Pb	Zen	P	DR	Own	U	4	Own	Sp	41.43	4	D	140	3780	6.00x20	6.00x20D
Dodge Bros. F 40 A	2	1995	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	43.73	4	D	150	5175	6.50x20	6.50x20D
Dodge Bros. F 60 A	3	2645	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	48.87	4	D	146	5543	32x6	32x6D
Dodge Bros. F 61 A	3	2575	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	43.87	4	D	170	5789	32x6	32x6D
Durant	¾	495	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Essex Commercial	¾	445	Own	6	2⅞x4½	18.2	CS	Mar	Vac	Aut	Own	U	3	Own	Sp	17.8	4	4	110	2150	30x5	31x5.50
Fargo Packet	½	595	Own	6	3⅛x4⅛	23.4	Pb	Str	Vac	NE	Own	U	3	Own	Sp	14.29	4	Tr	——	1935	5.00x19	5.00x19
Fargo Clipper	¾	725	Own	6	3⅛x4¼	23.4	Pb	Str	Vac	DR	Own	U	3	Own	Sp	15.53	4	Tr	——	2325	5.50x18	5.50x18
Fargo Freighter	1	795	Own	6	3⅛x4¼	23.4	Pb	Str	Vac	NE	Own	U	4	Own	Sp	37.19	4	Tr	——	2725	6.00x20	32x6
Federal D	1-1½	830	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B374	Sp	40.8	4	Tr	131	3185	6.00x20	32x6
Federal E6	1-1½	1090	Con 17 E	6	3⅜x4	27.3	Pb	Zen	Vac	DR	W-G T9	U	4	Cla B370	Sp	34.6	4	Tr	132	3260	6.00x20	32x6
Federal F7	1½	1525	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	P	DR	Own	U	4	Tim 52005H	Sp	24.3	4	Tr	132	3765	30x5	30x5D
Federal A6	2	1855	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Cla B610	Sp	38.5	4	Tr	151	4580	32x6	32x6D
Federal A6T	2½	2185	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 58000H	Sp	41.3	4	Tr	151	4950	32x6	32x6D
Federal A6TW	2½	2360	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 65001H	Wo	42.0	4	Tr	151	4950	32x6	32x6D
*Federal DSW	2½-3	1050	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B-374	Sp	40.8	6	Tr	158	3800	6.00x20	32x6
Federal T10B	2½-3	2740	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 58200H	Sp	36.3	4	Tr	165	6550	34x7	34x7D
Federal T10W	2½-3	2915	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 65201H	Wo	44.0	4	Tr	165	6550	34x7	34x7D
Federal U6	3-3½	3860	Con 18 R	6	4 x4½	38.4	Pb	Str	P	DR	Br-L 55	C	7	Tim 65706HP	Wo	64.6	4	D	165	7220	34x7	34x7D
Federal 4C6A	4-5	4735	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704HP	Wo	73.6	4	D	192	8330	36x8	36x8D
Federal 4C6AB	4-5	4930	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704TWP	Wo	73.6	4	D	192	8850	36x8	36x8D
*Federal U6SW	6	6000	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9850	34x7	34x7D
*Federal U6SWAB	6	6500	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9900	34x7	34x7D
Federal X8	7½	5085	Con B 7	4	5 x6	40	Pw	Zen	Vac	AB	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	9750	36x6S	40x14S
Federal X8R	7½	5810	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	10000	40x8	40x8D
*Federal 4C6SW	6	7500	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 300	Wo	80.8	6	Tr	231	11500	36x8	36x8D
Ford AA	1½	510	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	131½	2723	6.00x20	32x6
Ford AA	1½	535	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	157	3161	6.00x20	6.00x20
F. W. D.—H	1½	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7
F. W. D.—H6	2	3425	Wak	6	3¾x4½	29.4	Pb	Zen	Vac	Eis	Br-L	U	4	Own	St	35.0	4	R	133	5500	34x7	34x7
F. W. D.—BTL4	2	3900	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	120	6000	36x8	36x8
F. W. D.—HH6	2½	4000	Wak	6	3⅞x4½	33.7	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	101.0	4	R	133	5700	36x8	36x8
F. W. D.—B	3	4200	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Cwn	C	3	Own	St	35.6	4	R	124	6460	36x6S	36x6S
F. W. D.—B 5	3	4525	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	6800	36x6S	36x6S
F. W. D.—B T	3	4742	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	101.0	4	R	133¾	7700	40x7S	40x8D
F. W. D.—U 4	3	4575	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7000	36x6S	36x6S

1930 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
F. W. D.—C U 6	3½	5120	Wak	6	4 x4¾	38.6	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7250	36x6S	36x8S
*F. W. D.—X 6	6	6500	Wak	6	4¼x4¾	43.3	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	*	4	170	9500	36x8	36x8
Garford Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4500	32x6	D32x6
Garford Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	36x6	D36x6
Garford Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	5100	36x6	D36x6
Garford Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim	Wo	63.0	4	D	175	7000	36x6	D36x6
Garford Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim	Wo	63.0	4	D	175	7100	36x6	D36x7
Garford Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8200	S36x6	S36x12
Garford Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8400	S36x6	S36x14
Garford Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	95.0	4	D	175	9600	S36x6	S40x14
Gen. Mot. T11-1001	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Pontiac	Sp	14.7	4	4	109⅝	1980	5.00x19B	5.50x19B
Gen. Mot. T15-1501	*5400	695	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51500	Sp	16.14	4	4	130	2625	5.50x20B	5.50x20B
Gen. Mot. T17-1701	*5500	735	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2650	6.50x20B	6.50x20B
Gen. Mot. T17-1707	*6500	750	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2670	5.50x20B	32x6
Gen. Mot. T19-2201	*6300	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2850	5.50x20B	32x6
Gen. Mot. T19-2214	*8500	995	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2925	30x5	20x5D
Gen. Mot. T25-2501	*6800	1235	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3375	6.00x20B	7.50x20B
Gen. Mot. T25-2509	*8500	1300	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3425	30x5	30x5D
Gen. Mot. T30-3206	*9000	1555	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4450	6.00x20B	8.25x20B
Gen. Mot. T30-3203	*11000	1605	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4525	32x6	32x6D
Gen. Mot. T42-4206	*10600	1735	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4575	7.00x20B	9.00x20B
Gen. Mot. T42-4203	*14000	1960	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4905	36x6	36x6D
Gen. Mot. T44-4401	*12000	1965	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	4825	32x6	32x6D
Gen. Mot. T44-4404	*15000	2095	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	5095	34x7	34x7D
Gen. Mot. T60-6202	*16500	3035	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	34x7	34x7D
Gen. Mot. T60-6205	*18500	3150	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	9.00x20B	9.00x20DB
Gen. Mot. T82-8202	*19000	3795	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7500	9.00x20B	9.00x20DB
Gen. Mot. T82-8207	*22000	4070	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7850	38x7	38x9D
Gen. Mot. T90-9001	*23000	5885	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9400	7.50x20B	7.50x20D
Gen. Mot. T90-9004	*28000	6055	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9775	8.25x20B	8.25x20DB
*Gramm B	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	34.3	4	Tr	140	3800	6.50x20	6.50x20D
*Gramm C	2	1795	Lyc ASA	6	3⅝x4½	31.54	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	31	4	Tr	160	4820	7.00x20	7.00x20D
*Gramm D	2½	2195	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	33	4	Tr	160	5100	7.50x20	7.50x20D
*Gramm E	3	2595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	35	4	Tr	160	5300	8.25x20	8.25x20D
*Gramm EY	3	3595	Con 20 R	6	4⅛x4¾	40.80	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	30	4	D	190	6750	32x6	32x6D
*Gramm T-38	3	3595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	45	D	R	153	7200	36x5S	36x10S
*Gramm O-45	4	3995	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	75.8	D	R	153	7700	36x5S	36x12S
*Gramm GY	4	4345	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	28	4	D	210	7200	34x7	34x7D
*Gramm O-60	5	4745	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	78.4	D	R	153	8800	36x6S	36x14S
*Gramm HY	5	6545	Con 16 H	6	4¾x5¾	54.15	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	25.2	4	D	236	9600	36x8	36x8D
Indiana 64	1	1195	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	3	Col	Sp	21.3	4	Tr	137	3435	30x5	30x5
Indiana 74	1¼	1290	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	137	3450	32x6	32x6
Indiana 11	1¼	1425	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	24.48	R	R	129½	3500	30x5	30x5
Indiana 89	1½	1525	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	149	3650	32x6	32x6
Indiana 111	1½	1630	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	26.4	R	R	129½	3600	30x5	32x6
Indiana 111 XW	2	1850	Her	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L	U	4	Wis	2R	30.14	R	Tr	120	3740	32x6	32x6D
Indiana 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Indiana 140	2	2495	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4V	Tr	156	5500	32x6	32x6D
Indiana 115 A	2½	2740	Her	4	4¼x5	28.9	Pb	Str	Vac	Eis	Br-L	U	4	Cla	Sp	42.99	R	Tr	132	4970	32x6	34x7D
Indiana 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Indiana 127 AW	3	3775	Her	4	4¼x5	28.90	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	41.72	RV	D	158¼	7000	34x7	34x7D
Indiana 627 AW	3	4075	Wis	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	41.72	RV	D	156¼	7200	34x7	34x7D
Indiana 195	3	3820	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Indiana 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Indiana 220	3½	4560	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Indiana 250	5	5950	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Tim	Wo	—	4HMV	D	182	10000	40x8	40x8D
Indiana 290	7	7250	Con	6	4¾x5¾	54.15	Pb	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7	40x14S
Indiana 640	10	9700	Con	6	4¾x5¾	54.15	Pb	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4RW	D	212	14000	38x7	36x10S
International AW-1	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 517	Sp	17.4	4	2	136	2620	5.25x20	5.25x20
Int. Harvester Sp. Del.	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 502 R	Sp	15.1	4	2	124	2200	30x5.25	30x5.25
Int. Harv. 6 Spd. Spec.	1	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 1124	Sp	52.6	4	2	124	2430	30x5	30x5
Int. Harvester S-24	1¼	1160	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3200	30x5	30x5
Int. Harvester S-26	1¼	1310	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3250	30x5	30x5
Int. Harvester SF-34	1½	1450	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3520	30x5	32x6
International AL-3	1½	1450	Lyc SLH	6	3¼x4½	25.3	Pb	Zen	Vac	DR	W-G	U	4	Eat 1518	Sp	42.9	4	2	138	4300	6.00x20	6.00x20D
Int. Harvester SF-36	1½	1600	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3570	30x5	32x6
Int. Harvester SD-44	2	1590	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3700	30x5	32x6
Int. Harvester SD-46	2	1740	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3750	30x5	32x6
Int. Harvester SF-46	2	1950	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	4	Eat 2002	Sp	40.6	4	2	140	4000	32x6	32x6D
Int. Harvester A-4	2	1985	Own-FBB	6	3⅜x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 1712	Sp	47.3	4	2	145	5970	32x6	32x6D
Int. Harvester HS-54	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 54	2R	60.5	4	4	143	8030	36x8S	36x8S
Int. Harvester HS-54-C	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Own A M 428	Ch	63.8	4	4	148	8665	36x8S	36x10S
Int. Harvester W-1	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 58	2R	60.5	4	4	148	8300	36x8S	36x8S
Int. Harvester A-5	3	2550	Own-FBB	6	3⅜x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 2112	Sp	52.6	4	2	156	5606	34x7	34x7D
Int. Harvester HS-74	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Eat 74	2R	70.5	4	4	160	10700	36x8S	40x12S
Int. Harvester HS-74-C	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	79.1	4	4	160	11000	36x8S	40x12S
Int. Harv's'r HS-104-C	5	5500	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	90.5	4	4	160	11095	36x6S	40x14S
La France-Repub. A-1	*6000	795	Lyc	6	2⅞x4¾	19.8	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	36.1	4	Tr	132	3000	5.50x20	32x6
La France-Repub. C-1	*7000	1295	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	29.1	4	Tr	144	3200	6.00x20	32x6
La France-Repub. D-1	*9000	1595	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	37.9	4	Tr	144	3725	30x5	30x5D
La France-Repub. F-2	*13000	2295	Lyc	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	40.1	4	D	174	5400	32x6	32x6D
La France-Repub. H-1	*15000	2985	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	Sp	36.0	4	D	163	5250	34x7	34x7D
La France-Repub. L-1	*18000	3595	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	2R	48.0	4	D	180	6900	36x8	36x8D
La France-Repub. M-1	*20000	3800	Wak	6	4 x4¾	38.4	Pb	Zen	Vac	Aut	Ful	U	5	Eat	2R	62.3	R	D	171	6900	36x8	36x8D
Mack BL	1	2500	Own	6	3¼x5	25.39	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	148	—	B6.00x20	DB6.00x20
††Mack BG	1½	3000	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	138-156	—	32x6	D32x6
Mack AB	2½-3	3950	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	36x4S	36x8S
††Mack AB	2½-3	3500	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	36x4S	36x8S
Mack AB	2½-3	4750	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack AB	2½-3	4300	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack B	3-4	5250	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	2R	Opt	4	D	2-Opt	—	36x8	D36x8
††Mack BC	3½-5	5500	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	Ch	Opt	4	D	2-Opt		36x8	36x8D
††Mack BJ	3½-5	6150	Own	6	4½x5½	48.6	Pb	Str	Vac	NE	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x8	36x8D
††Mack AK	3½-5	5150	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4	J	3-Opt	—	36x5S	36x5DS
††Mack AK	3½-5	5250	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x5S	36x5DS
††Mack AC	3½-5	4950	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x5S	40x10S
††Mack AC	5½-7	5500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x6S	40x12S
††Mack AC	7½	6000	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36 7S	40x14S
††Mack AP	7½	9500	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	R	J	191	—	36x7S	40x8DS
††Mack A C 6-wheel	10	7500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7S	40x12S
††Mack AP 6-wheel	10	12000	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7	40x12S
Paige	¾	860	Own	6	3¼x4½	25.35	Pb	DL	P	DR	W-G	U	3	Sal	Sp	17.36	4	Tr	115	2465	B5.50x19	B5.50x19
Relay Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5500	36x6	D36x6
Relay Series 50	2	3860	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	6800	36x6	D36x6
Relay Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5700	36x6	D36x6
Relay Series 50	2½	4000	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	7000	36x6	D36x7
Relay Series 60	2½	4555	Bud B A 6	6	4 x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	175	7350	36x6	D36x6
Relay Series 50	3	4130	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	7200	36x6	D40x8
Relay Series 60	3	4595	Bud B A 6	6	4 x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	175	7500	36x6	D38x7
Relay Series 80	3	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	U	8	Own	R	84.18	4	D	175	8490	36x6	S40x10
Relay Series 60	3½	4745	Bud B A 6	6	4 x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	58.5	4	D	175	7600	38x7	D40x8
Relay Series 80	3½	5330	Bud B A	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8690	36x6	S40x12

Major Specifications and Mechanical Details of 1930 Commercial Cars Built in the United States

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Relay Series 80	4	5330	Bud B A	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8800	38x7	S40x14
Relay Series 100	5	6615	Con 21 R	6	4⅜x4¾	45.9	Pb	Str	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	230	10000	9.00x24	D9.75x24
Reo D F 129	½	1095	Own	6	3⅜x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	129	——	6.00x20	32x6
Reo 15 Junior	½	785	Con 19 E	6	3⅜x4	27.3	Pb	Sch	P	DR	W-G	U	3	Sal	Sp	14.63	4	Tr	115	2290	6.00x18	6.00x18
Reo D F	1	1095	Own C B	6	3⅜x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	135	3200	6.00x20	32x6
Reo F A	1½	1295	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	137	3525	6.00x20	32x6
Reo F E	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	152	3700	6.00x20	32x6
Reo F F	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	156	3750	6.00x20	32x6
Reo F H	2	1595	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.6	4	Tr	142	4165	32x6	32x6D
Reo F C	2	1645	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	152	4025	32x6	32x6D
Reo F D	2	1745	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	168	4075	32x6	32x6D
Reo G A	3	2035	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	163	4625	32x6	32x6D
Reo G C	3	2140	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	179	4850	32x6	32x6D
Reo G D	3	2085	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	78.1	4	Tr	144	4570	32x6	32x6D
Reo G C S	3	2375	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	210	5320	32x6	32x6D
Rugby T	½	655	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Own	U	3	Own	Sp	15.6	4	4	—	2160	29x5	29x5
Rugby 6-15	1	865	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	2990	20x5.50	32x6
Rugby 615	1½	930	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	3000	5.50x20	30x5D
Selden 7 C	1	1098	Con	6	2⅞x4⅜	19.84	Pb	Zen	Vac	Aut	Br-L	U	3	Tim	Sp	—	4	D	124	3600	30x5	30x5
Selden 17 C	1½	1500	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3000	32x6	32x6
Selden 317 C	1½	1610	Con	6	3⅜x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 37 C	2	1935	Con	6	3⅜x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	151	4800	32x6	32x6D
Selden 39 C	2½	2920	Con	6	4 x4¼	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	164	5800	32x6	32x6D
Selden 47 C B	3½	3785	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	171	7200	34x7	34x7D
Selden 47 C D	4	4435	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	5	Wis	2R	—	4	D	171	7600	36x8	36x8D
Selden 67 C	5	4975	Con	6	4⅜x4⅝	45.94	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	171	8700	36x8	36x8D
Selden 77	7	7365	Con	6	4¾x5¾	54.15	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	178	12000	36x7	40x7D
Service Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4500	32x6	D32x6
Service Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	36x6	D36x6
Service Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	5100	36x6	D36x6
Service Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim	Wo	63.0	4	D	175	7000	36x6	36x6
Service Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim	Wo	63.0	4	D	175	7100	36x6	D38x7
Service Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8200	S36x6	S36x12
Service Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8400	S36x6	S36x14
Service Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	95.0	4	D	175	9600	S36x6	S40x14
Stewart 30	1	695	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2905	6.50x20	6.50x20
Stewart 30 X	1	795	Lyc WRG	6	2⅞x4⅜	19.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2965	6.50x20	6.50x20
Stewart 40	1½	895	Lyc AFE	4	3¾x4½	22.5	P	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	130	3215	6.50x20	6.50x20D
Stewart 40X	1½	995	Lyc WTG	6	3 x4½	23.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	3250	6.50x20	6.50x20D
Stewart 34 X	1½	1195	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	145	3526	6.50x20	6.50x20
Stewart 28 X	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	Ful	U	4	Cla	Sp	44.1	4	D	136	3958	6.50x20	6.50x20
Stewart 29XS	2	1695	Lyc ASA	6	3⅜x4½	25.3	Pb	Str	P	DR	Ful	U	4	Cla	Sp	44.1	4	D	145	4450	32x6	32x6D
Stewart 26 XW	2	2290	Lyc TF	6	3⅜x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5095	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc TF	6	3⅜x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5788	32x6	32x6D
Stewart 32 X	2½	1990	Lyc ASA	6	3⅜x4½	31.54	Pw	Str	Vac	DR	Ful	U	4	Cla	Sp	46.1	4	D	165	5100	32x6	32x6D
Stewart 35 X	3	2590	Lyc AFD	6	3¾x4½	33.8	Pw	Str	P	DR	Ful	U	4	Cla	Sp	46.1	4	DR	165	5800	8.25x20B	8.25x20D
Stewart 33 X	3	3290	Lyc TS	6	3⅞xl	36.2	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	105.1	4	D	165	6450	34x7	34x7D
Stewart 19 X	3½	3690	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	C	12	Tim	Wo	105.1	4	D	165	7010	36x5	36x10
Stewart 31 X	5	4990	Wak 6 RSL	6	4⅜x5⅛	45.9	Pw	Str	Vac	DR	Ful	C	8	Tim	Wo	82.1	4	D	165	8400	36x6S	36x6SD
Stewart 27 X	6-7	5700	Wak 6 RSL	6	4⅜x5⅛	45.99	Pw	Str	Vac	DR	Ful	U	8	Tim	Wo	93.81	4	D	165	9927	36x7	40x7D
Studebaker GN-P	¾	845	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	15.15	4	‡4	115	2465	6.00x19	6.00x10
Studebaker GN-S	1	1045	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	130	2990	6.00x20	30x5
Studebaker GK-N	1	1095	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	146	3000	30x5	30x5
Studebaker S-20	1½	695	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36 2	4	4	130	3000	6.00x20	32x6
Studebaker S-30	1½	775	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	160		6.00x20	32x6
Studebaker S-50	2	895	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	148		6.50x20	6.50x20D
Studebaker S-60	2	945	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	160		6.50x20	6.50x20D
Studebaker GN-N	*4000	1245	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Cla	U	4	Cla	Sp	33.5	4	D	146	3265	30x5	32x6
Studebaker 77	*12500	2895	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	158	5030	7.00x20	7.00x20D
Studebaker 88	*12500	3295	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5200	7.50x20	7.50x20D
Studebaker 99	*14000	3795	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5680	7.50x20	7.50x20D
Whippet 96 A	½	360	Own 96 A	4	3⅛x4¾	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.74	4	B	103¼	1665	4.75x19	4.75x19
White 15 B		1545	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3402	30x5	30x5
White 60		1350	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	DR	Own	U	3	Own	Sp	17.9	4	D	138	3739	30x5	30x5
White 57		2725	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3935	32x6	32x6
White 20 A		2125	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	2R	32.1	R	R	145½	4572	34x5	34x5D
White 61		2450	Own 4 A	6	3¾x4½	33.75	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	D	148	4789	30x5	30x5D
White 56		3125	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	26.2	R	D	165	5276	36x4S	36x7S
White 51 A		3750	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	35.6	R	D	170	6438	36x5S	36x9S
White 58		4400	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	49.7	D	R	170	6438	36x5S	36x9S
White 55		4650	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	66.1	D	R	174	8737	36x5S	40x5SD
White 52 T		4700	Own GRC	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	76.5	D	R	129½	8461	36x5S	40x5SD
White 52		5100	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	5	Own	IG	92.3	D	R	174	9409	36x6S	40x12S
White 59 A		6000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	66.5	D	R	155	9775	40x8	40x14S
White 63		5000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	41.4	4	D	168	8350	34x7P	34x7DP
White 64		6300	Own 1 A	6	4⅜x5¾	45 94	Pw	Zen	P	LN	Own	U	4	Own	2R	46.8	4	D	180	9154	36x8P	36x8DP
Willys Six 98 B	½	525	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.28	4	B	110	1904	5.50x19	5.00x19
Willys Six C-101	1½	695	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	4	Cla	Sp	42.33	4	B	131	2740	5.50x20	30x5
Willys-Knight T-103	1½	825	Own KGT	6	2⅞x4⅜	20.7	Pb	Til	Vac	Aut	Cov	U	4	Cla	Sp	42.33	4	B	131	2848	5.50x20	30x5

GENERAL NOTATIONS

"REFERENCE MARKS apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons *Shows maximum allowable gross weight in pounds.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Pw, full pressure lubrication to all main, connecting rod and camshaft bearings, including wrist pins; CS, circulating splash; Sp, splash.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Vac, Vacuum tank; P, Fuel pump

IGNITION—AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Loece-Neville; N-E, North East; RB, Robert Bosch; DR, Delco-Remy; Mag, Magneto

TRANSMISSION—Br, L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cotta, Cotta Gear Company.

LOCATION—C, center, amid; U, in unit with engine; J, on jackshaft.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, Internal gear; St, Straight bevel; Sp, Spiral bevel; Wo, Worm; 2R, Double reduction; Ch, Chain; R Relay drive

BRAKES—J, Jackshaft; R, Rear wheels; D, Drive shaft; 4, four-wheel; Tr, Transmission; V, Vacuum booster; W, Westinghouse air brake; B, Both front and rear wheels.

TIRES—B, Balloon; D Dual; S, Solid; P, Pneumatic

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear, weight 6,400. Price $3,900

Chieftain model also available as Dump Truck, 169-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUSTIN

*Price announced in forthcoming issue.

AUTOCAR

*Engines in these models are located under the driver's seat.

DIAMOND T.

Myers Magazine oiling system for chassis optional equipment.

DURANT LINE

*Price includes panel body.

DODGE

Dodge Model F 36 A to D is available on 135-inch wheel base. Model F 41 A to E is available on 155-inch wheel base. Model F 61 A to E is available on 170-inch wheel base. Model F 62 A to E is available on 195-inch wheel base. F 40 A, F 60A, F 61 A, optional carburetor, Detroit-Lubricator.

F. W. D.

*Indicates six-wheel model. Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

*Foot brake on X6 is a Lockheed type, operating on all six wheels.

FEDERAL

*Six wheelers.

GRAMM

Series 6	Straight Rating	Adj. Wheel Base	Pay Load Range
B	10,000	157-174	1¾ tons
C	11,000	145-196	2 tons
D	13,000	145-196	2½ tons
E	15,000	145-196	3 tons

GENERAL MOTORS TRUCK LINE

*Capacity indicated for each chassis is the recommended gross weight without exceeding rated capacity of tires. The tire size does not affect the straight rating for which chassis is guaranteed and each model is designed to operate satisfactorily under average conditions with loads giving a total gross weight (chassis, body, equipment and payload) equal to straight rating given below. The additional standard wheel base lengths, the number of additional tire types (tire combinations—each type carrying a recommended gross weight) and the ton range on a nominal pay-load basis for each model is given below.

Model	Straight Rating	Additional Wh. bases, ins.			Addit'l Tire Types	Pay'l Range
T-11	3800	None			None	½
T-15	5400	141			2	¾
T-17	6500	141			6	¾-1¼
T-19	8500	141		151	20	1-2
T-25	8500	141		152	15	1-1¾
T-39	11000	152		164	13	1½-2½
T-42	14000	152	164	181	10	2-3½
T-44	15000	152	164	181	10	3-4
T-60	18500	166¾	184½	200¼	16	2½-4½
T-82	22000	167½	185¼	201	10	3-6
T-90	28000	201		220	5	5-7½

Optional rear axle ratios are available for all models.

MACK LINE

Other wheel bases furnished on all truck models.

On 6-wheel jobs, 4 rear wheels driven by chains, foot brake on 4 rear wheels.

HYP—Hypoid drive, single reduction.

‡Made also in tractor models.

REO LINE

Model F A also available in 129-inch wheel base.

RUGBY

F—Chassis weight includes body.

STEWART LINE

Model 30 and 30X can also be supplied in 129 and 140-inch wheel base.

Model 40 can also be supplied in 140 and 160-inch wheel base.

*Model 34X can be supplied in 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 160 and 176-inch wheel base.

*Model 26XW can be supplied in 148, 178 and 190-inch wheel base.

*Models 18X, 32X and 33X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148 172, 190, 220 and 235-inch wheel base.

As optional equipment models 18X, 19X, 33X, 31X and 27X can be supplied with Timken dual reduction rear axle.

STUDEBAKER LINE

*Capacity model GN-N is 4,000 pounds for body, cab, driver and payload.

Maximum gross load, chassis, body and payload for Models 77 and 88 is 12,500 lbs. and for Model 99 is 14,000 lbs.

‡Hand brake same as foot brake, standard. Hand brake on drive shaft, special equipment.

G. M. BROCK WILL MANAGE USED PIERCE-ARROW SALES

New York, Oct. 2.—Effective October 1, George W. Brock succeeded A. A. Schrumpf, who has resigned as used car manager of the 57th Street branch of the Pierce-Arrow Motor Car Company here. Mr. Brock has successfully merchandised used cars in the metropolitan district of New York for the past sixteen years.

MERCHANDISING
ACCESSORIES
EQUIPMENT

WHOLESALE

DISTRIBUTION
SHOP EQUIPMENT
REPLACEMENTS

A. P. I. WILL PRESENT WORKING STOCK DATA

New York, Oct. 2.—Data showing minimum working stocks of gasoline needed for satisfactory operation of the country's refineries, compiled from a questionnaire sent to refiners by the American Petroleum Institute, will be presented at meetings of the institute's board of directors and division general committees in the Mayo Hotel at Tulsa, Okla., October 2 and 3.

Collection of these data represents the first attempt of the industry through any agency to determine what stocks of gasoline refiners actually require to carry on their operations, "working stocks" meaning the minimum to which the industry can allow gasoline stocks to fall and still satisfactorily fill orders. Refiners were asked to list their working stocks at refineries, bulk terminals and in transit on September 30, 1930. Stocks will be shown for each refinery district and for the country as a whole.

Separate and joint meetings of the directors and general committees are on the program for the two days. The schedule for the sessions follows:—

Thursday, October 2, 10 a. m.—General committee, division of production.

Thursday, October 2, 2 p. m.—General committee, division of refining.

Friday, October 3, 10 a. m.—General committee, division of marketing.

Friday, October 3, 12.30 p. m.—Board of directors, with luncheon for directors and members of the three general committees.

Editor's Column

ENTRANCE of the larger oil companies into the tire-distribution field is regarded as further complicating the problem that has been facing, not only the rubber companies, but distributors as well, for years. The question as to which is the best of several methods of distribution, it is pointed out, has never been definitely established, with the result that competition among proponents of the various systems has cut profit to a point at which it is almost negligible.

It is freely admitted that a quick solution of distribution is the one big problem that if settled would do much to put the larger rubber companies on a stable basis. This year, according to reports from rubber companies, has been most disappointing. Chief among the setbacks was the failure of the public to buy tires for replacement up to a point anywhere near the estimates made at the first of the year.

At the beginning of the year rubber companies realized that there would be a sharp recession in automobile manufacture and therefore a sharply lower demand for tires for original equipment.

It was expected, however, that the public, in using old cars, would increase the normal demand for replacement of tires. This increase, however, has not taken place either because owners of old cars have not been using them so much or because many cars that ordinarily would receive a new set of tires are being run on the old ones.

Another factor that enters into the unfilled replacement expectations is that the quality of tires has been improved so greatly in the last two or three years that more mileage results, and therefore replacements for the individual owner are further apart than formerly. This year is the second consecutive one in which replacements declined, and while next year is expected to show an increase in this branch of the rubber industry, a continuous increase cannot be counted on because of the longer wear the tires now give.

The quantity orders to result from the sale of tires by the larger oil companies through their filling stations will naturally lower the manufacturer's price for each tire. The rubber companies have been eager for this business, even at the lower unit price, on the theory that the heavier orders will bring gross profits up to larger figures. Tires for original equipment are also sold on the bulk basis, as are those few orders for mail order and chain stores supplied by the regular tire companies.

It is said, however, that the expansion in sales needed to make the gross income from bulk sales comparable to or above the present sales of the rubber companies probably will not materialize. This reasoning is based on the fact that tire sales are directly in proportion to automobile sales and that any great volume of sales reached by the oil company filling stations will cause an almost corresponding decrease in the channels of retail distribution that already exist.

Independent dealers and dealer branches owned by rubber companies are the most profitable sources of tire income to the rubber companies. With their sales decreased through the inroads of the oil companies buying in bulk, it is regarded as problematical whether rubber companies can keep their tire incomes at present levels.

Regarding the position of the rubber companies, however, it is held that the last year probably has been the hardest that they are likely to experience in a long time. The expected shrinkage in calls for original tire equipment combined with the unexpected failure of the replacement demand came in conjunction with rapidly decreasing rubber prices and consequent heavy losses in the inventory value. That inventory losses have been generally absorbed up to the present time is accepted as a fact, and the replacement demand, which is expected to develop with the new year, should show a more profitable series of operations than has been seen in the last year.

PENNSYLVANIA A. A. NAMES SPEAKERS FOR CONVENTION

Philadelphia, Oct. 2.—The uncompleted list of speakers at the convention of the Pennsylvania Automotive Association, consisting of car dealers and distributors and jobbers of accessories, which will be held at the Abraham Lincoln Hotel, Reading, Pa., October 6 and 7, stands at this time as follows: Chester Leasure, United States Chamber of Commerce; Paul G. Hoffman, vice-president of the Studebaker Corporation of America; James Dalton, industrial editor of Motor.

C. A. Vane, general manager of N. A. D. A.; Benjamin G. Eynon, commissioner of motor vehicles, state Highway Department; Charles J. McGough, Wilkes-Barre Buick Company; Paul Dumas, Chilton Class Journal Company; William Burruss, Oakland, Md.; William Ellenbeck, Raybestos Company, and Irving O'Hay, "soldier of fortune." The Philadelphia Automobile Trade Association plans to send a large delegation.

WESTINGHOUSE LAMP CO. WILL TRAIN EMPLOYEES

Newark, N. J., Oct. 2.—G. G. Cook, educational director of the Westinghouse Lamp Company, announces a group of training courses for employees of the Westinghouse organization, beginning next week at the Bloomfield plant. The courses will be in mechanical and electrical engineering, industrial economy and industrial mathematics. There also will be a continuation of last year's class in shop engineering.

Mr. Cook announced employees are not limited to the outlined courses. If eight or more employees desire study in special technical or non-technical subjects they may consult him. The classes will meet one night each week in the educational room of the Bloomfield plant.

B. F. GOODRICH STARTS TIRE SAFETY CAMPAIGN

Akron, Oct. 2.—Old automobiles tires traded in on new equipment at service stations operated all over the United States by the B. F. Goodrich Rubber Company have been ordered destroyed in a national tire safety campaign recently started by the Goodrich company. A safety device in the form of a non-puncturable inner tube known as the "air container" is a new Goodrich product expected to further safe motor car operation.

Cumulative New Commercial Car Registration Statistics, August, 1929

This table is repeated for comparative purposes only. August, 1930, statistics appear on Page 6

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Ala., 1929			572		8		1	2	243	3	9	1									6	7			4	856	Ala., 1929
Ariz., 1929			72		19				124	12	3				4		5			3	6				1	249	Ariz., '29
Ark., 1929			560		20	1	1	1	490	5	68	1			4				1		11	6			5	1164	Ark., 1929
Cal., 1929	11		604	1	186	2	20	21	1460	119	52	38		2	109	10	19	34	4	9	8	4		5	171	2929	Cal., '29
Conn., 1929	9	17	151	11	58	2	5	7	213	25	28	32		1	59	1	5	1	3	4	3	8		1	19	669	Conn., '29
Del., 1929			39	1	1				65	4	5	1			2		1		1		2					122	Del., 1929
Fla., 1929		6	165		14				321	16	10	1			7					2	2	8				552	Fla., 1929
Ga., 1929	2	11	239		25		5	3	294	7	22	2			9						10	4				633	Ga., 1929
Idaho, '29			215		22		2		237	12	43				8		11			1	5	3		1	4	634	Idaho, '29
Ill., 1929	6	9	718	62	92		15	6	1073	46	140	16			33	1		9	2		40	19			106	2393	Ill., 1929
Ind., 1929	1	16	558	8	65	3	8	5	722	40	72			6	35				14	6	32	1		2	13	1607	Ind., 1929
Iowa, 1929		9	461	2	45	3	10	2	371	10	132	3		2	27		5				43	4			6	1141	Iowa, '29
La., 1929		1	316	1	24		1		404	11	73	4			2						3	4		1	1	846	La., 1929
Me., 1929	1		224		32	1	3		173	8	37	11			29		4			1	15			1	1	546	Me., 1929
Md., 1929	20	13	164	9	39	4	6	4	296	31	42	17			20	2	2	2	10	3	4	16			16	740	Md., 1929
Mass., 1929	30	26	242	24	112	10	15	11	587	72	61	43			78		4	19	6	6	12	19		2	18	1397	Mass., '29
Mich., 1929	4	2	434	7	49	16	7	15	877	47	55	10		2	60	6	1		1	1	24	4		2	22	1644	Mich., '29
Minn., '29			421	2	38	1	12	7	555	22	123	9			27		1			1	28	9		4	23	1283	Minn., '29
Mo., 1929	6	5	527	23	62		6	8	817	39	97	14		1	20	4	5	6	1	7	41	6			13	1708	Mo., 1929
Mont., 1929			222		28		14	8	289	9	91	4			16		3			1	11	3		1	1	711	Mont., '29
Neb., 1929		2	372		28		7	1	385	24	133	1		1	12		4			4	24	3		2	7	961	Neb., '29
Nev., 1929			18		10				62	5	5	2			1					1		1			8	113	Nev., 1929
N. H., 1929	2	2	52		11	2		3	84	6		1			6			1						1	1	172	N. H., '29
N. J., 1929	25	30	426	18	112		18	13	692	57	39	21		4	42		1	18	9	11	13	43		5	78	1695	N. J., '29
N. M., 1929			117		9		2		111	7	13										8	4			1	272	N. M., '29
N. Y., 1929	45	153	879	115	219	8	64	21	1652	137	210	160		7	126	4	3	26	80	8	47	26		3	121	4101	N. Y., '29
N. C., 1929		1	312		30		1	1	304	5	22	15			6	1					6	4			4	712	N. C., '29
N. D., 1929			142	1	8		3		182	11	74				2					3	8			1		436	N. D., '29
Ohio, '29	25	27	667	7	102	7	21	11	1102	79	139	29		5	57	1	6	1	6	2	66	66		15	57	2498	Ohio, '29
Okla., 1929	2	2	520	5	69	1	12	11	519	31	126	12			21	1	1		1	7	26	7		1	15	1390	Okla., '29
Ore., 1929			186		29		3	8	274	12	20	16			20	3	8	6			5	15			10	615	Ore., '29
Penn., '29	65	44	897	36	233	6	43	22	1617	91	194	104		22	125	2	11	26	79	11	59	75		3	82	3857	Penn., '29
R. I., 1929	1	2	61		23		4		86	18	3	5			14		4	4	1	1	2	4			5	233	R. I., '29
S. Car., '29			193		7		1	1	220	10	7	1				2			1		3	2				448	S. C., 1929
S. D., 1929		1	317		10				218		124			18		1		1	1	23					5	719	S. D., 1929
Utah, 1929			68		11		2		155	2	3				5		5				4				1	256	Utah, '29
Vt., 1929		1	56	2	14	1	2	5	92	8	18	5			7		1		4	1	4	2			1	224	Vt., 1929
Va., 1929	2	6	323	1	15			5	368	10	39	5		1	12	9	1		4	6	7	12			3	829	Va., 1929
Wash., '29			252		40		4	2	422	20	51	4		3	20		11	4		1	20	17			31	902	Wash., '29
W. Va., '29		9	200	5	25		2	6	232	16	36			2	9	3				2	11	1			1	560	W. Va., '29
Wis., 1929		1	342	15	52		9	3	503	20	69	3		4	42		1	13	5	5	22	2			17	1128	Wis., '29
D. of C., '29	3	3	24		2			1	83	13	6	2			2				2		2	5			8	156	D. C., '29
Totals	260	404	13348	356	1998	68	334	214	12954	1120	2473	614	*	81	1661	51	123	181	241	131	643	512	*	51	820	44118	Totals

*Not on the market at that time.

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